final

June 2, 2006

SETTLEMENT AGREEMENT FOR IMPLEMENTATION OF REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AT THE UPPER COLUMBIA RIVER SITE

I. NATURE OF AGREEMENT

1. This Settlement Agreement ("Agreement") is made and entered into by the United States, on behalf of the U.S. Environmental Protection Agency ("EPA"), and by Teck Cominco American Incorporated ("TCAI") and a separately incorporated affiliate, Teck Cominco Metals Ltd. ("TCM"), which is a Party to this Agreement solely for the limited purposes set out herein (collectively, the "Parties"). This Agreement concerns the Upper Columbia River Site ("Site"), which consists of the areal extent of hazardous substances contamination within the United States in or adjacent to the Upper Columbia River, including the Franklin D. Roosevelt Lake ("Lake Roosevelt"), from the border between the United States and Canada downstream to the Grand Coulee Dam, and all suitable areas in proximity to such contamination necessary for implementation of the response actions described below. The Site may include land and waters within the boundaries of the Colville Indian Reservation and the Spokane Indian Reservation, over which the Tribes have civil regulatory jurisdiction, as well as land and waters administered by the National Park Service and the Bureau of Reclamation within the U.S. Department of the Interior ("DOI"). The Parties enter into this Agreement to provide for the implementation of the activities described herein at the Upper Columbia River Site.

2. On December 11, 2003, EPA issued a Unilateral Administrative Order ("UAO") under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), directing TCM to perform a Remedial Investigation and Feasibility Study ("RI/FS") at the Site. The United States contends that discharges from the Trail Smelter, situated approximately ten (10) river miles north of the U.S.– Canada border, have contributed to releases of hazardous substances, as defined in CERCLA, at the Site. The United States acknowledges that other entities may have contributed to releases of hazardous substances at the Site. While TCM and TCAI deny that they have liability under CERCLA for the Site, TCM and TCAI have offered to enter into this contractual agreement with EPA to perform the tasks set forth herein.

3. The intent of the Parties to this Agreement is to perform a RI/FS for the Site as outlined in the Statement of Work ("SOW") attached hereto as Exhibit A. The Parties intend that this RI/FS process, while not carried out under an administrative or judicial order issued pursuant to the provisions of CERCLA, will be consistent with the National Contingency Plan ("NCP"), 40 C.F.R. part 300.

4. The Parties agree not to challenge the work performed pursuant to and in accordance with this Agreement as being inconsistent with the NCP. In addition to being consistent with the NCP, all activities performed to conduct the RI/FS (the "Work") shall be performed consistent with applicable EPA guidance, including the Draft Framework for Inorganic Metals Risk Assessment, as it may be modified or finalized by EPA, and, as reflected in the SOW, shall be based upon principles of risk-based analysis, bioavailability, empirical testing, and field confirmation. The Work shall be performed consistent with the foregoing and in accordance with the requirements, specifications, and schedules in this Agreement, the SOW and all work plans approved by EPA, which shall be developed, approved and overseen to reflect the provisions of this Paragraph and Agreement. These workplans are or will be incorporated by reference in, and shall be enforceable under, this Agreement. EPA may approve, disapprove, require revisions to, or modify all proposed work plans and all deliverables described in this Agreement, the SOW, or any approved work plan, consistent with the terms of this Agreement. However, EPA may not, under this Agreement, require TCAI to implement any action that is a material departure from this Agreement or the SOW unless it is required to ensure consistency with the NCP, nor find that TCAI is in material breach of this Agreement or seek access to the funds escrowed pursuant to Paragraph 49, based on TCAI's failure or refusal to implement any action that is a material departure from this Agreement or the SOW that is not required to ensure consistency with the NCP.

5. All work under this Agreement shall be performed subject to EPA oversight. The Parties agree that TCAI shall perform the RI/FS, either itself or through contractors it has funded, except where it is expressly provided in the SOW that other entities are to complete certain tasks, in which event TCAI will fund those tasks.

II. DEFINITIONS

6. Solely for purposes of convenience for the implementation of the work described in this Agreement, and without TCAI's or TCM's accepting for any purpose the application of the substantive provisions of CERCLA to TCAI or TCM, the Parties adopt for terms in this Agreement the statutory definitions in CERCLA, 42 U.S.C. § 9601 et seq, except where this Agreement expressly provides another definition.

Whenever terms listed below are used in this Agreement or in any exhibit attached hereto, the following definitions shall apply:

a. "Agreement" shall mean this Settlement Agreement and any attached exhibits. In the event of conflict between this Agreement and any exhibit, the Agreement shall control.

b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601 et seq.

c. "Day" shall mean a calendar day unless otherwise specified in this Agreement. In computing any period of time under this Agreement, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

d. "Decisionmaker" shall be the official(s) of the EPA designated herein, and/or in the Technical Review Process document attached hereto as Exhibit B and incorporated herein by reference, for review and determination of a particular issue arising under this Agreement.

e. "DOI" shall mean the United States Department of the Interior.

f. "Effective Date" shall mean the date of execution hereof by the last Party to execute this Agreement.

g. "EPA" shall mean the United States Environmental Protection Agency and any successor departments, agencies or instrumentalities of the United States.

h. "Final Decision" shall mean a final determination made by the Decisionmaker with respect to a matter under this Agreement.

i. "Future RI/FS Costs" shall mean all costs, including direct and indirect costs, which EPA, or the Department of Justice on behalf of EPA, incurs on or after the Effective Date of this Agreement in connection with the RI/FS for the Site. These costs, include, but are not limited to, all costs incurred reviewing or developing plans, reports and other items pursuant to this Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry ("ATSDR") costs, the Technical Assistance Plan ("TAP") costs referenced in Paragraph 13b. which shall not exceed $50,000, costs associated with developing and implementing the Community Relations Plan, costs incurred pursuant to Paragraph 22 (costs and attorneys fees and any monies paid to secure access, including the amount of reasonable compensation), costs associated with Dispute Resolution and the Technical Review Process, costs incurred by EPA to obtain technical assistance to support EPA oversight of the RI/FS, or EPA's performance of the Human Health Risk Assessment, including, but not limited to, costs incurred by EPA for such technical assistance obtained from DOI, the Tribes, or the State of Washington, costs associated with fulfilling or arranging for the fulfillment of any of TCAI's obligations under this Agreement, and costs associated with performing or developing the Human Health Risk Assessment, the Proposed Plan, and Record of Decision. For purposes of this paragraph, with respect to DOI, the Tribes, and the State of Washington, "technical assistance" costs mean those costs incurred by EPA to contract directly with DOI, the Tribes, or the State of Washington to obtain that entity's unique expertise on a particular technical matter.

j. "Interest" shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of Title 26 of the U.S. Code, compounded on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

k. "National Contingency Plan" or ("NCP") shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, and codified at 40 C.F.R. Part 300, and any amendments thereto.

l. "Paragraph" shall mean a portion of this Agreement identified by an Arabic numeral or a lower case letter.

m. "Parties" shall mean the United States and Teck Cominco American Incorporated, and solely for the limited purposes identified herein, Teck Cominco Metals Ltd.

n. "RI/FS" shall mean the Remedial Investigation and Feasibility Study to be performed in accordance with this Agreement to investigate the nature and extent of contamination at the Site, including performing the risk assessments for human health and the environment, performing studies and analyses necessary to identify Applicable or Relevant and Appropriate Requirements, and developing and evaluating potential remedial alternatives.

o. "Site" shall mean the Upper Columbia River Site, which consists of the areal extent of hazardous substances contamination within the United States in or adjacent to the Upper Columbia River, including the Franklin D. Roosevelt Lake, from the border between the United States and Canada downstream to the Grand Coulee Dam, and those areas in proximity to the contamination which are suitable and necessary for implementation of the response actions decribed in this Agreement.

p. "Start Date" shall mean the day that EPA transmits to TCAI the 2005 field data and notifies TCAI that it has done so, or the Effective Date of this Agreement, whichever is later.

q. "State" shall mean the State of Washington.

r. "Statement of Work" or ("SOW") shall mean the statement of work for implementation under this Agreement, together with Appendix A attached thereto, which are set forth as Exhibit A to this Agreement. The Statement of Work is incorporated into this Agreement and is an enforceable part of this Agreement.

s. "Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

t. "TCAI" shall mean Teck Cominco American Incorporated, a United States corporation incorporated under the laws of the State of Washington, and its successors and assigns.

u. "TCM" shall mean Teck Cominco Metals Ltd., a Canadian corporation incorporated under the laws of Canada, and its successors and assigns.

v. "Tribes" shall mean the Confederated Tribes of the Colville Reservation ("Colville Tribes") and the Spokane Tribe of Indians ("Spokane Tribe") through their governing councils, agencies, and departments.

w. "United States" shall mean the United States of America, including all of its departments, agencies, and instrumentalities.

x. "Work" shall mean the RI/FS activities carried out under this Agreement as provided in the SOW.

y. "Work Plans" shall mean detailed plans for activities, as described in Paragraph 8, below, to achieve specified objectives of the SOW.

III. WORK TO BE PERFORMED

7. TCAI, through contractors, subcontractors, laboratories and consultants retained by TCAI, or through funding of activities performed by others where expressly provided in the SOW, shall perform the Work as set forth in the SOW, including Appendix A, and all future Work Plans agreed to between the Parties or as otherwise required under this Agreement. Within thirty (30) days of the Effective Date of this Agreement, and before the work outlined below begins, TCAI shall notify EPA, in writing, of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such work. The qualifications of the personnel undertaking the work for TCAI shall be subject to EPA's review, for verification that such personnel meet minimum technical background and experience requirements. If EPA disapproves, in writing, of the technical qualifications of any personnel, TCAI shall notify EPA of the identity and qualifications of the replacement(s) within thirty (30) days of the written notice. During the course of the RI/FS, TCAI shall notify EPA, in writing, of any changes or additions in the personnel used to carry out such work, providing their names, titles, and qualifications. EPA shall have the right to approve changes and additions to personnel hereunder.

8. The SOW, including its Appendix A, is an outline of the RI/FS to be performed under this Agreement. All Work Plans developed pursuant to this Agreement shall be designed to accomplish one or more of the objectives set forth in the SOW. The types of studies that TCAI may perform to complete the RI/FS are described more fully in the SOW and RI/FS guidance.

IV. MODIFICATION OF WORK PLANS AND OTHER DELIVERABLES

9. EPA, subject to the provisions of this Agreement, may approve or disapprove, in whole or in part, require revisions to, or modify any proposed Work Plan or other deliverable. TCAI must fully correct all deficiencies and incorporate and

integrate all information and comments supplied by EPA either in subsequent or resubmitted deliverables. Except as otherwise specified, if EPA disapproves of, or requires revisions to a submitted document, in whole or in part, TCAI shall amend and submit to EPA a revised document which is responsive to the directions in all EPA comments within thirty (30) days of receiving EPA's comments. In the event that TCAI amends or revises a report, plan, or other submittal upon receipt of EPA comments and EPA subsequently disapproves of the revised submittal, or if subsequent submittals do not fully reflect EPA's directions for changes, EPA retains the right to seek liquidated damages, perform its own studies, complete the RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek reimbursement from TCAI for its costs, and/or seek any other appropriate relief. In the event that EPA takes over some of the tasks, but not the preparation of the RI/FS, TCAI shall incorporate and integrate information supplied by EPA into the final RI/FS Report.

10. If at any time during the RI/FS process, TCAI identifies a need for additional data for the RI/FS, TCAI shall submit a memorandum documenting the need for additional data to the EPA Project Coordinator within twenty (20) days of identification. EPA, in its discretion, may determine whether the additional data will be incorporated into the RI/FS Administrative Record.

11. In the event that TCAI becomes aware of conditions at the Site which pose an immediate threat to human health or welfare or the environment, TCAI shall immediately notify EPA and the State, and, in the event that such conditions should arise on land under the jurisdiction or control of the Colville Tribes, the Spokane Tribe, or DOI, notice shall also be provided to any entity with such jurisdiction or control. The appropriate contacts for EPA are as follows: National Response Center (800-424-8802), and Kevin Rochlin, EPA Project Coordinator (206-553-2106). EPA agrees to provide TCAI with the appropriate State and Tribal contacts within 10 days of the Effective Date. In the event of unanticipated or changed circumstances at the Site that are material enough to require modification of a workplan in TCAI's judgment, TCAI shall notify the EPA Project Coordinator by telephone within forty eight (48) hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Work Plan, EPA shall modify or amend the Work Plan, in writing, accordingly. TCAI shall perform the Work Plan as modified or amended.

12. Subject to the provisions of Paragraph 4, EPA may determine that in addition to tasks defined in the initially approved Work Plan, other work may be necessary to accomplish the objectives of the RI/FS. EPA may require that TCAI perform these response actions in addition to those required by the initially approved Work Plan, including any approved modifications, if it determines that such actions are necessary for a complete RI/FS. TCAI shall confirm its willingness to perform the additional work, in writing, to EPA within fourteen (14) days of receipt of the EPA request or TCAI shall invoke dispute resolution. Subject to resolution of any dispute, TCAI shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Work Plan or

written Work Plan Supplement. EPA reserves the right to conduct the work itself at any point, to seek reimbursement from TCAI, and/or to seek any other appropriate relief. In addition, the SOW may be modified at any time by written agreement of EPA and TCAI.

V. COMPONENTS OF THE WORK/DELIVERABLES

13. a. TASK 1: SCOPING. TCAI shall conduct the scoping activities as described in the SOW. During scoping, TCAI shall provide EPA with the following deliverables:

i. Technical Memorandum on Risk Management-Based Action Objectives for Ecological Risk Assessment. Within ninety (90) days of the Start Date, TCAI shall submit a technical memorandum on ecological risk management-based action objectives, as described in the SOW. Revisions to this document shall be due fourteen (14) days after receipt of EPA's comments.

ii. RI/FS Work Plan. Within one hundred fifty (150) days of the Start Date, TCAI shall submit to EPA a complete RI/FS Work Plan. Because the RI/FS is being conducted in an iterative manner, there may be multiple addenda to the RI/FS Work Plan to take into account additional data requirements determined as the investigation progresses.

iii. Sampling and Analysis Plan. Within two hundred and ten (210) days of the Start Date, TCAI shall submit to EPA the Sampling and Analysis Plan ("SAP"). The SAP shall consist of a Field Sampling Plan ("FSP") and a Quality Assurance Project Plan ("QAPP"), as described in the SOW and guidance.

iv. Site Health and Safety Plan. Within two hundred and ten (210) days of the Start Date, TCAI shall submit to EPA the Site Health and Safety Plan ("HSP").

v. Cultural Resources Coordination Plan. Within two hundred and ten (210) days of the Start Date, TCAI shall submit to EPA the Cultural Resources Coordination Plan.

b. TASK 2: COMMUNITY RELATIONS PLAN. Consistent with EPA guidance and the NCP, EPA will prepare a Community Relations Plan to ensure meaningful opportunities for public involvement in the work to be conducted at the Site under this Agreement. TCAI will provide information as requested by EPA for distribution to the public and for public meetings which may be held by EPA to explain activities at or relating to the Site. In addition, within thirty (30) days of a written request by EPA, TCAI also shall provide EPA with a proposed Technical Assistance Plan ("TAP"). If EPA disapproves of or requires revisions to the TAP, in whole or in part, TCAI shall amend and submit to EPA a revised TAP which is responsive to the directions in all EPA comments, within fourteen (14) days of receiving EPA's comments. The TAP shall provide for up to $50,000 of TCAI's funds to be used as a Technical Assistance Grant ("TAG") by a qualified community group meeting the requirements of

40 C.F.R. § 35.4020, except that the requirements of 40 C.F.R. § 35.4020(a)(1) shall be considered satisfied if the group could be affected by actual or potential releases at the Site notwithstanding the fact that the Site is neither listed nor proposed for listing on the CERCLA National Priorities List. The TAP funding shall be used consistent with 40 C.F.R. Part 35, Subpart M, to hire independent technical advisors to review documents or provide other assistance related to TCAI's Work under this Agreement.

c. TASK 3: SITE CHARACTERIZATION. Following EPA approval or modification of the Work Plan and Sampling and Analysis Plan, TCAI shall implement the provisions of these plans to characterize the Site. TCAI shall initiate the tasks described in the SAP within ninety (90) days of EPA approval or modification of the RI/FS Work Plan and Sampling and Analysis Plan. TCAI shall provide EPA with analytical data within ninety (90) days of each sampling activity, in an electronic format (i.e., computer disk) showing the location, medium, and validated results, consistent with the data management section of the QAPP. Within seven (7) days of completion of field activities, TCAI shall notify EPA, in writing. During Site characterization, TCAI shall provide EPA with the following deliverables, as described in the Statement of Work and Work Plan.

i. Technical Memorandum on Modeling of Site Characteristics. Where TCAI proposes that modeling is appropriate, within sixty (60) days of the initiation of Site characterization, if requested by EPA, TCAI shall submit a technical memorandum on modeling of Site characteristics, as described in the SOW.

ii. Preliminary Site Characterization Summary and Data Gap Evaluation. Within one hundred fifty (150) days of completion of the field sampling and analysis, as specified in the Work Plan, TCAI shall submit a Site characterization summary and data gap evaluation to EPA. If data gaps exist, a workplan and SAP amendment to meet those data needs will be submitted within ninety (90) days of submittal of the Site characterization and data gap evaluation.

iii. Remedial Investigation Report. Within ninety (90) days of completion of the final Site characterization summary and data gap evaluation, TCAI shall submit a draft remedial investigation report consistent with the SOW, Work Plan, and Sampling and Analysis Plan.

d. TASK 4: ECOLOGICAL RISK ASSESSMENT. TCAI shall complete an Ecological Risk Assessment during the RI/FS process. Within one hundred twenty (120) days after the RI/FS Work Plan is approved, TCAI shall submit to EPA an Ecological Risk Assessment Work Plan consistent with the SOW and in accordance with EPA guidance and the NCP. Following EPA's approval of the Work Plan, TCAI will begin preparation of the Ecological Risk Assessment, conduct a technical assessment, and provide an ecological risk assessment report describing the results to the EPA upon its completion.

e. TASK 5: TREATABILITY STUDIES. TCAI shall conduct treatability studies where EPA, in consultation with TCAI, determines they are needed. Major

components of the treatability studies include scope of studies, the design of the studies, and the implementation of the studies, as described in the SOW. During treatability studies, TCAI shall provide EPA with the following deliverables:

i. Determination of Candidate Technologies and of the Need for Testing. This memorandum shall be submitted within thirty (30) days of the submittal of the RI report.

ii. Treatability Testing Work Plan. If EPA determines that treatability testing is required, within thirty (30) days thereafter, or as otherwise specified by EPA, TCAI shall submit a Treatability Testing Work Plan, including a schedule. Revisions to this document are due to EPA within fourteen (14) days of receiving EPA's comments.

iii. Treatability Study Sampling and Analysis Plan. Within sixty (60) days of receiving notice from EPA of the need for a separate or revised QAPP or FSP, TCAI shall submit a Treatability Study Sampling and Analysis Plan.

iv. Treatability Study Health and Safety Plan. Within thirty (30) days of receiving notice from EPA of the need for a revised Health and Safety Plan, TCAI shall submit a Treatability Study Health and Safety Plan.

v. Treatability Study Cultural Resources Coordination Plan. Within fourteen (14) days of the completion of the Treatability Sampling and Analysis Plan, TCAI shall submit a Treatability Cultural Resources Coordination Plan.

vi. Treatability Study Evaluation Report. Within ninety (90) days of completion of any treatability testing, TCAI shall submit a Treatability Study Evaluation Report as provided in the SOW and Work Plan.

f. TASK 6: DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES. TCAI shall develop an appropriate range of remedial options that will be evaluated through the development and screening of alternatives, as provided in the SOW and Work Plan. During the development and screening of alternatives, TCAI shall provide EPA with the following deliverables:

i. Technical Memorandum on Refined Risk Management-Based Action Objectives. Where TCAI proposes that refined risk management-based action objectives are appropriate, within sixty (60) days after the completion of the Baseline Risk Assessment, TCAI shall submit a technical memorandum on Refined Risk Management-Based Action Objectives, as described in the SOW. Revisions to this document are due to EPA within fourteen (14) days after receiving EPA's comments.

ii. Technical Memoranda of General Response Actions. Within fourteen (14) days of completing the Refined Risk Management-Based Action Objectives, TCAI shall submit technical memoranda of General Response Actions, as described in the SOW. Revisions to this document are due to EPA within fourteen (14) days after receiving EPA's comments.

iii. Technical Memoranda on the Development and Preliminary Screening of Remedial Technologies, Assembled Alternatives Screening Results and Final Screening. Within ninety (90) days of submittal of the memorandum on refined risk management-based action objectives, TCAI shall submit technical memoranda summarizing the development and screening of remedial alternatives, including an alternatives array document as described in the SOW.

g. TASK 7: DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES. TCAI shall conduct a detailed analysis of remedial alternatives, as described in the SOW and Work Plan. During the detailed analysis of remedial alternatives, TCAI shall provide EPA with the following deliverables and presentation:

i. Technical Memorandum on Comparative Analysis. Within ninety (90) days of submission of a memorandum on the development and screening of remedial alternatives, TCAI shall submit a report on comparative analysis to EPA summarizing the results of the comparative analysis performed among the remedial alternatives.

ii. Draft Feasibility Study Report. Within ninety (90) days of the completion of the technical memorandum on comparative analysis, TCAI shall submit a Draft FS Report which reflects the findings in the risk assessments. TCAI shall refer to the RI/FS guidance for report content and format. The final report and the administrative record shall provide the basis for EPA's Proposed Plan under CERCLA §§ 113(k) and 117(a), which will document the development and analysis of remedial alternatives.

14. EPA may require TCAI to stop work, temporarily or permanently, on any task, activity, or deliverable at any point during the term of this Agreement. Should EPA require TCAI to cease work, EPA shall in coordination with TCAI, set new deadlines for that work, and any subsequent work for which the schedule is affected by the work cessation. Neither EPA's failure to expressly approve or disapprove of TCAI's submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA. For the following deliverables, TCAI shall not proceed further with any subsequent activities or tasks until receiving EPA approval: RI/FS Work Plans, Sampling and Analysis Plans, Cultural Resources Coordination Plans, Draft RI Reports, Draft Ecological Risk Assessment Work Plans, Ecological Risk Assessment Reports, Treatability Testing Work Plans, Treatability Study Sampling and Analysis Plans, and Draft FS Reports. While awaiting EPA approval on these deliverables, TCAI shall proceed with all other tasks and activities that can be conducted independently of these deliverables, in accordance with the schedule set forth in this Agreement.

VI. HUMAN HEALTH RISK ASSESSMENT

15. Draft and Final Human Health Risk Assessment Work Plan. During the RI/FS process, EPA will complete a Baseline Human Health Risk Assessment. EPA will prepare a draft and final Human Health Risk Assessment Work Plan consistent with the

SOW and in accordance with EPA guidance and the NCP. The Baseline Human Health Risk Assessment shall be completed by EPA in cooperation with and with participation by TCAI. EPA will coordinate closely with the State, the Colville Tribes, the Spokane Tribe, and DOI in the development and implementation of the Baseline Human Health Risk Assessment.

16. EPA will provide, after review of TCAI's Site characterization summary, sufficient information concerning the baseline risks such that TCAI can begin drafting the FS Report and the Memorandum on Refined Risk Management-Based Action Objectives. This information will normally be in the form of two or more Baseline Human Health Risk Assessment memoranda prepared by EPA. One memorandum will generally include a list of the chemicals of concern for human health effects and the corresponding toxicity values. Another should list the current and potential future exposure scenarios, exposure assumptions, and exposure point concentrations that EPA plans to use in the Baseline Human Health Risk Assessment. The public, including TCAI, may comment on these memoranda.

17. After considering any significant comments received, EPA will prepare a Baseline Human Health Risk Assessment Report. EPA will release this report to the public at the same time it releases the Final RI Report. Both reports will be placed in the Administrative Record for the Site.

VII. DESIGNATION OF PROJECT COORDINATORS

18. On or before the Effective Date of this Agreement, EPA and TCAI shall each designate its own Project Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Agreement. To the maximum extent possible, written communications between TCAI and EPA shall be directed to the Project Coordinator by mail or electronic mail, with copies to such other persons as may be required. EPA and TCAI have the right to change their respective Project Coordinator upon at least ten (10) days notice in writing prior to the change.

19. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the NCP. In addition, EPA's Project Coordinator shall have the authority, consistent with the NCP, to halt any work or other activity required by this Agreement and to take any necessary response action when he or she determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Agreement shall not be cause for the stoppage or delay of work.

VIII. SAMPLING, ACCESS, AND DATA AVAILABILITY/ADMISSIBILITY

20. All sampling and analysis performed pursuant to this Agreement shall conform to EPA direction and approval regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. TCAI, and any other

entity performing Work for or at the direction of TCAI or EPA, shall ensure that laboratories used to perform the analyses participate in a QA/QC program that complies with the appropriate EPA guidance.

21. Upon request by EPA, TCAI shall allow EPA or its authorized representatives to take split and/or duplicate samples of all samples taken by TCAI. All split and/or duplicate samples taken shall be analyzed by the methods identified in the QAPP. TCAI shall notify EPA at least fifteen (15) days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary.

22. If any portion of the Site, or an off-Site area, to which access is needed for performance of the Work, is owned in whole or in part by an entity not a party to this Agreement, or is administered by DOI, TCAI shall obtain, or use its best efforts (including, where appropriate, reasonable compensation) to obtain, Site access agreements from the present owner(s) within sixty (60) days of EPA approval of the SAP. Such agreements shall provide access for EPA, its contractors and oversight officials, and the State, the Tribes, and DOI and their contractors, and TCAI or its authorized representatives. Such agreements shall specify that TCAI is not EPA's representative with respect to liability associated with Site activities. Copies of such agreements shall be provided to EPA prior to TCAI's initiation of field activities. If access agreements are not obtained within the time referenced above, TCAI shall immediately notify EPA of its failure to obtain access. EPA may obtain access for TCAI or perform those tasks or activities with EPA contractors. In the event that EPA performs those tasks or activities with EPA contractors, TCAI shall perform all other activities not requiring access to that portion of the Site, and shall reimburse EPA for all costs incurred in obtaining access and performing such activities. TCAI additionally shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables.

23. Upon request by TCAI, EPA shall allow TCAI or its authorized representatives to take split and/or duplicate samples for all samples taken by EPA or persons acting on behalf of EPA. All split and/or duplicate samples shall be analyzed in accordance with the methods identified in the QAPP. EPA shall notify TCAI at least fifteen (15) days in advance of any sample collection activity, unless shorter notice is agreed to by TCAI. TCAI shall have the right to take any additional samples that it deems necessary. If work is to be performed in areas that the Tribes deem culturally sensitive, TCAI may not be allowed to take the split samples. In those circumstances, EPA will coordinate with the Tribes to arrange for the split samples to be provided to TCAI.

24. Each Party shall provide to the other, upon request, copies of all non-privileged records, reports, or information (hereinafter referred to as "records") within their possession or control or that of their contractors or agents, that relate to activities undertaken to implement this Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Site.

Consistent with section 3.1 of the attached SOW, TCAI will provide data on operations of the Trail Smelter relevant to identification of contaminants of potential concern at the Site, upon request by EPA.

25. TCAI may assert business confidentiality claims covering part or all of the records submitted to EPA under this Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. 2.203(b). Records determined to be confidential by EPA will be accorded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies records when they are submitted to EPA, or if EPA has notified TCAI that the records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to TCAI.

26. No claim of confidentiality or privilege shall be made to any data or other factual information generated under the terms of this Agreement, including but not limited to sampling, monitoring, hydro-geologic, scientific, chemical, and engineering data. This term is not intended as a general waiver of any privilege which may apply to a Party's own independent evaluation of data or other factual information generated under the terms of this Agreement.

27. To the extent that access to any portion of the Site is controlled by TCAI, at all reasonable times, EPA and its authorized representatives shall have the authority to enter and freely move about all property at the Site and off-Site areas where work, if any, is being performed, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or TCAI and its contractor pursuant to this Agreement; reviewing the progress of TCAI in carrying out the terms of this Agreement; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device, or other documentary type equipment; and verifying the data submitted to EPA by TCAI. TCAI shall allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Agreement. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under federal law. All parties with access to the Site under this paragraph shall comply with all approved Health and Safety Plans.

28. In entering into this Agreement, the United States and TCAI waive any objections solely between them to the admissibility into evidence, in any action between them, of any data gathered, generated, or evaluated in the performance or oversight of the RI/FS that has been verified according to the quality assurance/quality control procedures required by the Agreement or any EPA-approved Work Plans or Sampling and Analysis Plans. If TCAI objects to any other data relating to the RI/FS, TCAI shall submit to EPA a report that identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations on the use of the data. The report must be submitted to EPA within fifteen (15) days of the monthly progress report containing the data.

IX. FINAL REPORTS, PROPOSED PLANS, RECORD OF DECISION AND ADMINISTRATIVE RECORD

29. EPA shall release to the public any final report prepared pursuant to this Agreement and any non-privileged analysis using data collected pursuant to this Agreement. EPA shall prepare and release to the public the Proposed Plan and Record of Decision in accordance with CERCLA and the NCP. No final report prepared pursuant to this Agreement should be privileged.

30. EPA will maintain the Administrative Record for selection of any response action. The Administrative Record file shall include those materials cited in 40 C.F.R. 300.810 and any other materials that EPA determines are appropriate for inclusion. TCAI shall submit to EPA all documentation concerning the Site developed by or for, or relied upon by, TCAI for performance of the RI/FS that must be included in the Administrative Record file pursuant to 40 C.F.R. 300.810. TCAI shall provide copies of plans, task memoranda, including documentation of field modifications, recommendations for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports. TCAI must additionally submit any previous studies conducted by or for TCAI or TCM under Canadian, British Columbian, State, local, tribal, or other federal authorities relating to selection of the response action for the Site, and all non-privileged communications between TCAI and Candian, British Columbian, State, local, tribal, or other federal authorities concerning selection of the response action for the Site. EPA may require TCAI to house one copy of the Administrative Record at each of the community information repositories established at the Site. This Paragraph does not apply to data or other information collected by TCAI independently of this Agreement for the express purpose of evaluating or defending natural resource damage or other claims.

X. DISPUTE RESOLUTION, JUDICIAL REVIEW AND JURISDICTION

31. Except in an action by the United States to enforce a requirement of this Agreement that has not been disputed in accordance with this Section X, or an action by TCAI pursuant to Paragraph 34, any dispute arising under this Agreement shall be as follows: TCAI shall notify EPA's Project Coordinator, in writing, of its dispute within fourteen (14) days of receipt of a disapproval notice, request for performance or payment, or other event or inaction triggering the dispute. TCAI's written statement shall define the dispute, state the basis of TCAI's position, and be sent by certified mail, return receipt requested. EPA and TCAI then have an additional fourteen (14) days to reach agreement. If an agreement is not reached within fourteen (14) days, TCAI may request, in writing, with a copy to EPA's Project Coordinator, a determination by the Director of EPA Region 10's Environmental Cleanup Office ("ECL"). EPA may, within fourteen (14) days of its receipt of TCAI's request, submit a written statement responding to TCAI's written statement. The decision of the Office Director of ECL, in consultation with the Region 10 Administrator, will be EPA's final decision on any matter in dispute under this Agreement other than those matters to which the Technical Review Process referenced below applies. Unless TCAI has invoked the Technical Review

Process for a dispute subject to Paragraph 32, TCAI shall proceed in accordance with EPA's final decision regarding the matter in dispute.

32. Solely for disputes concerning (a) documents specified in part 3 ("Technical Review Process") of Exhibit B ("Technical Review of Upper Columbia River RI/FS"), and (b) a decision by EPA requiring an action that is material and substantial, inconsistent with the principles of risk-based analysis, bioavailability, empirical testing, and field confirmation, not required for consistency with the NCP, and outside the SOW, TCAI may, by notifying EPA's Project Coordinator in writing within ten (10) days of its receipt of the ECL Director's determination, invoke the Technical Review Process described therein. The Parties shall then have an additional fourteen (14) days to resolve the dispute by informal negotiations. If the Parties are unable to resolve the dispute, then TCAI shall provide, within fourteen (14) days of the conclusion of informal negotiations, the Office Director of ECL and Dr. Elizabeth Southerland, Director of the Office of Superfund Remediation and Technology Innovation, by overnight delivery, with a written statement defining TCAI's dispute and stating the basis for TCAI's position. EPA's Project Coordinator will have fourteen (14) days from delivery of that statement to provide a written response to Dr. Southerland and the Office Director of ECL, with a copy to TCAI. From the time that the EPA project coordinator receives notice that TCAI is invoking the technical review process until EPA's time for submitting a written statement to Dr. Southerland has expired neither party shall intentionally initiate a communication with Dr. Southerland regarding the matter that is the subject of this dispute. The Technical Review Process shall then proceed as described at part 3 of Exhibit B. If TCAI does not agree to perform or does not actually perform the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from TCAI, to seek enforcement of the decision, to seek liquidated damages, and/or to seek any other appropriate relief. Where EPA seeks liquidated damages or another judicial remedy, TCAI reserves the right to assert that EPA's requirements are not consistent with Paragraph 4 above or with this Agreement.

33. Unless EPA agrees otherwise, TCAI remains obligated to perform and conduct activities and submit deliverables on the schedule set forth in the Agreement and Work Plan while a matter is pending in Dispute Resolution. If a dispute is raised regarding a component of a Deliverable or activity, unless it is impracticable to do so, TCAI must continue to submit or conduct the remaining components of the Deliverable or activity. The invocation of Dispute Resolution does not stay the accrual of liquidated damages under this Agreement, except that no such damages shall accrue from the date TCAI submits its written statement of dispute to the Office Director and Dr. Southerland until receipt of the Final Decision in that process. The Parties may agree, in writing, to extend any of the time periods specified in Paragraphs 31 and 32, above.

34. Other than in an action by the United States to enforce this Agreement, TCAI shall not seek judicial review of any dispute arising under this Agreement, except that TCAI or TCM may seek immediate judicial review in the United States District Court for the Eastern District of Washington or the U.S. Court of Claims, as appropriate, on the following issues under this Agreement: (a) the determination by the EPA Region 10

Director of the Office of Environmental Cleanup to access escrowed funds or other financial assurance provided by TCAI; (b) non-compliance with EPA's commitment to resolve disputes (including disputes relating to Force Majeure) in accordance with this Section, and to follow the Technical Review Process described in Exhibit B to this Agreement; (c) enforcement of EPA's obligation to withdraw the UAO upon the Effective Date of this Agreement. Nothing in this Paragraph shall preclude TCAI or TCM from asserting the covenant not to sue and contribution provisions set forth in Paragraphs 55 and 73 of this Agreement, or EPA's noncompliance with this Agreement, as a defense in any action, or EPA's noncompliance with this Agreement as bases to challenge EPA's attempt to access funds placed in escrow by TCAI under Paragraph 49.

35. TCAI seeking judicial review as provided by Paragraph 34 shall not automatically extend, postpone, or affect in any way any obligation of TCAI under this Agreement, or stay the accrual of liquidated damages under this Agreement; however, TCAI may request such relief from the Court during the pendency of judicial review. If TCAI seeks judicial review under Paragraph 34(a), EPA may continue to access the escrowed funds as provided in Paragraph 49 during the course of judicial review. If TCAI prevails on the issue under judicial review, EPA shall return the funds to the escrow account, together with interest at the rate accruing in the account; provided that nothing herein shall require EPA to expend funds in violation of the Anti-Deficiency Act, 31 U.S.C. §§ 1341-1519.

36. Nothing in this Agreement is intended to create any right in TCAI to challenge the substantive decisions made by EPA during the RI/FS process, nor to preclude TCAI from an ultimate challenge to the Record of Decision or other EPA action, to the extent provided by applicable law.

37. TCAI acknowledges that it is subject to personal jurisdiction in the United States District Court for the Eastern District of Washington or the U.S. Court of Claims, as appropriate. TCAI's entry into this Agreement, its performance of work under this Agreement, and its corporate relationship with TCM are not and shall not be considered bases for liability of TCAI under CERCLA or any other federal, state, Tribal, or common law with respect to the Site. Solely for the limited purpose of an action to enforce its rights and obligations under Paragraphs 4, 40, 41, 43, 50, 57, and 58 of this Agreement, TCM consents to personal jurisdiction in the United States District Court for the Eastern District of Washington or the U.S. Court of Claims, as appropriate. TCM's entry into this Agreement shall not be considered as a basis for finding TCM subject to the personal or subject matter jurisdiction of United States courts for any purpose other than to enforce this Agreement.

XI. PROGRESS REPORTS AND MEETINGS

38. TCAI shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems

or new issues. Meetings will be scheduled at EPA's discretion in coordination with TCAI.

39. In addition to the deliverables set forth in this Agreement, TCAI shall provide to EPA monthly progress reports by the tenth (10th) business day of the following month. At a minimum, with respect to the preceding month, these progress reports shall: (1) describe the actions which have been taken to comply with this Agreement during that month; (2) describe the results of sampling and tests and all other data collected or received by TCAI; (3) describe work planned for the next two (2) months with schedules relating such work to the overall project schedule for RI/FS completion; and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XII. PARTIES BOUND

40. This Agreement shall apply to and be binding upon each of the Parties and their successors and assigns in accordance with its terms, which have specific, limited application to TCM. Any change in ownership or corporate or other legal status of TCAI or TCM, including but not limited to any transfer of assets or real or personal property, shall in no way alter such Party's responsibilities under this Agreement. Each signatory to this Agreement certifies that he or she is authorized to enter into the terms and conditions of this Agreement and to bind legally the Party that he or she represents.

41. TCAI and/or TCM, as appropriate, shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred in any corporate acquisition or other transaction that results in: (1) the transfer of substantially all the assets of TCAI or TCM, or (2) constitutes a transfer of ownership rights that results in a change of control of TCAI or TCM. TCAI shall provide a copy of this Agreement to all contractors, subcontractors, laboratories, and consultants retained by it to conduct any work performed under this Agreement, within fourteen (14) days after the Effective Date of this Agreement or the date of retaining their services, whichever is later. TCAI shall condition any such contracts upon compliance with this Agreement.

42. Notwithstanding the terms of any service or other contract, the Parties hereto are responsible for their compliance with this Agreement and for ensuring that their employees, contractors, consultants, subcontractors and agents comply with this Agreement, to the extent that these persons perform any Work. EPA shall ensure compliance with the terms of this Agreement addressing technical validity and reliability of data in those instances where Work is carried out by entities other than TCAI or its contractors.

XIII. COSTS

43. Costs incurred by TCAI or TCM pursuant to the Settlement Agreement, together with the $500,000 good faith payment made by TCAI to the United States for

data compilation efforts relating to the Site, shall be credited against the ultimate liability of TCM and/or TCAI, if any, for Site response costs.

44. TCAI shall pre-pay, on an annual basis, EPA's estimated Future RI/FS Costs for the succeeding fiscal year. After the Effective Date of this Agreement, and annually thereafter, EPA shall provide TCAI with its estimate of Future RI/FS Costs for the succeeding year the costs EPA expects to incur in connection with the RI/FS under this Agreement. For fiscal year 2007 and the remainder of fiscal year 2006, TCAI shall prepay EPA's estimated Future RI/FS Costs for the period between the Effective Date of this Agreement through September 30, 2007.

45. Within thirty (30) days of receipt of each annual cost estimate, TCAI shall pay the estimated costs by Electronic Funds Transfer ("EFT") in accordance with current EFT procedures provided to TCAI by EPA Region 10, or by a certified or cashier's check. The amounts paid by TCAI shall be deposited in the Upper Columbia River Special Account within the EPA Hazardous Substances Superfund pursuant to Sections 104 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9622. Payment shall be accompanied by a statement identifying the name and address of the entity(ies) making the payment, the Site name, the EPA Region Site/Spill ID#106X, and EPA docket number 10-2006-0219. Copies of the transmittal letter and payment information should be sent simultaneously to the EPA Project Coordinator and to:

Superfund Accounts Receivable
EPA Cincinnati Finance Center
MS-NWD
Cincinnati, Ohio 45268

Interest shall accrue from the later of: the date payment of a specified amount is due; or the date of the expenditure. The interest rate is the rate of interest on investments for the Hazardous Substances Superfund in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

46. TCAI shall also reimburse any Future RI/FS Costs incurred by EPA in excess of the pre-paid amounts, and costs incurred by EPA in connection with the Dispute Resolution and Technical Review processes. Any funds unexpended from an annual prepayment shall be applied only to such Future RI/FS Costs for subsequent years, with any such funds unexpended at the completion of the Work under this Agreement to be returned to TCAI. Payment shall be made in accordance with the procedures set forth in Paragraph 45 within thirty (30) days of TCAI's receipt of a demand for reimbursement, unless TCAI invokes Dispute Resolution and pays the disputed amount into escrow within that period.

47. Any disputes regarding payment of Future RI/FS costs shall be governed by the Dispute Resolution provision of this Agreement. TCAI shall identify any contested costs and the basis of its objection. All undisputed costs shall be remitted by TCAI in accordance with the schedule set forth above. Disputed costs shall be maintained by TCAI in an escrow account while the dispute is pending. TCAI bears the burden of

establishing an EPA accounting error or the inclusion of costs outside the scope of this Agreement.

48. In addition to costs to be paid by TCAI described above, TCAI shall pre-pay to EPA, within fifteen (15) days of the Effective Date of this Agreement and annually thereafter, the sum of $500,000, which shall be available to fund costs incurred by either of the Tribes, and/or the State, for reviewing plans or reports and otherwise participating in the RI/FS process ("Participation Costs"). This amount shall be allocated as agreed among the Tribes and the State, except that if the Tribes and State are unable to reach such agreements within ninety (90) days of the Effective Date, it shall be allocated one-third to each entity. In addition, TCAI shall pre-pay to DOI within fifteen (15) days of the Effective Date of this Agreement and annually thereafter, the sum of $600,000, which shall be available only to fund costs incurred by DOI for reviewing plans and reports and otherwise participating in the RI/FS process, and not for any other purpose including but not limited to natural resource damage assessment. DOI will provide payment instructions to TCAI within ten (10) days after the Effective Date. Such Participation Costs are in addition to and exclusive of any costs incurred by EPA to obtain technical assistance relating to EPA's oversight of the RI/FS from one of the Tribes, the State, or DOI. Unexpended funds for any year shall be applied only to Participation Costs for subsequent years, with any such funds unexpended at the end of this Agreement to be returned to TCAI. EPA shall only distribute funds to the Tribes and the State under this Paragraph consistent with 40 C.F.R. part 35, subpart O. After five (5) years this funding arrangement will be renegotiated. Nothing in this Paragraph is intended to preclude the Tribes, the State, and DOI from further discussions with TCAI and TCM concerning adjusting these pre-payment amounts should these entities' annual Participation Costs exceed the pre-payment amounts provided by this Paragraph.

XIV. FINANCIAL ASSURANCES

49. Within ten (10) days of the Effective Date of the Settlement Agreement, TCAI shall place in escrow with a bank or other escrow agent located in the United States and acceptable to EPA, the sum of twenty million United States dollars ($20,000,000). EPA can access all or any portion of the escrowed funds upon a determination by the ECL Director that TCAI has, without good cause, ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, or otherwise is in material breach of its obligations under this Agreement. Before EPA can make such a determination, the underlying action or inaction giving rise to the ECL Director's determination of a material breach must have (1) undergone dispute resolution pursuant to paragraphs 31 or 32, as appropriate; or (2) been eligible for dispute resolution, but TCAI elected to forego such process. Upon the ECL Office Director's determination, EPA will send written instructions to the Escrow Agent to release those funds. The Escrow Agent shall release those funds only in accordance with EPA's instructions and only for the specific purpose of funding performance of the RI/FS and/or Future RI/FS Costs, as defined herein, and only at such times and in such amounts as EPA, in its

sole discretion, may authorize. Any amounts received by EPA from the escrow account shall be deposited in the Upper Columbia River Special Account within the EPA Hazardous Substances Superfund pursuant to Sections 104 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9622. Upon EPA's approval of the completed Work under this Agreement, all amounts remaining in the escrow account, with accrued interest, if any, shall be returned to TCAI.

50. If TCAI files for bankruptcy protection, is declared insolvent, or otherwise is unable to fulfill its obligations under the Settlement Agreement, TCM shall assume all of TCAI's outstanding rights and obligations under this Agreement.

51. a. Within fourteen (14) days of the Start Date, TCAI shall secure, and shall maintain in force for the duration of this Agreement the below listed insurance. All policies where permitted by law will name the United States as an additional insured.

i. Wrap-Up Liability Insurance insuring Teck Cominco American Incorporated and their respective directors, officers, employees and agents (including the Engineer, the Contractor and its consultants, sub-consultants, contractors and sub-contractors either directly or indirectly employed under this Agreement against liability arising from personal injury (including death) and from claims for loss of or damage to property which may arise directly or indirectly out of the performance of the work.

Such insurance shall be for an amount not less than $US 20 million unless this limit is not commercially available.

This insurance includes:

(A) contractual liability;

(B) products and completed operations;

(C) cross liability;

(D) contingent employers liability;

(E) coverage for claims arising from use of machinery and equipment attached to licensed vehicles;

(F) non-owned automobile;

(G) personal injury and property damage;

(H) a statement that this insurance is primary to any other coverage maintained by the parties insured;

(I) sudden and accidental pollution liability, which if commercially available, may be sub-limited.

ii. Automobile liability insurance with limits of $US 2 million.

iii. Workers' compensation insurance and Employers' Liability insurance as required by the applicable laws and regulations of the jurisdictions in which the work is being carried out, including voluntary payments.

iv. Professional Errors and Omissions in the amount of $US 1 million.

b. For the duration of this Agreement, TCAI shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of TCAI, in furtherance of this Agreement.

c. If TCAI demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor TCAI need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

d. Prior to commencement of any work under this Agreement, and annually thereafter on the anniversary of the Effective Date of this Agreement, TCAI shall provide to EPA a detailed letter outlining the insurance program in place for this Agreement.

52. At least seven (7) days prior to commencing any Work under this Agreement, TCAI shall certify to EPA that the required insurance has been obtained.

53. TCAI agrees to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action to the extent arising from or on account of acts or omissions of TCAI, its employees, agents, servants, receivers, successors, assignees or contractors, in carrying out activities on behalf of TCAI under this Agreement. The United States Government or any agency or authorized representative thereof shall not be deemed a party to any contract entered into by TCAI in carrying out activities under this Agreement.

XV. RECORD PRESERVATION

54. TCM and TCAI shall preserve all records and documents in their possession or control that relate to the Work for a minimum of ten (10) years after issuance of the Final ROD for the Site. TCM and TCAI shall acquire and retain copies of all such documents that relate to the Site and are in the possession of any of their employees, agents, accountants, contractors, or attorneys. After this ten (10) year period, TCM and TCAI shall notify EPA at least ninety (90) days before the documents are scheduled to be destroyed. If during the interim period, EPA requests copies of any

such documents, TCM and TCAI shall, at no cost to EPA, give EPA the documents or copies of the documents, except those documents as to which TCM or TCAI asserts a valid claim of privilege.

XVI. COVENANTS AND RESERVATIONS

55. Except as specifically provided by the United States' Reservations of Rights in paragraph 56, the United States covenants not to sue or to take administrative action against TCM and TCAI pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), and Section 7003 of RCRA, 42 U.S.C. §6973, for (i) civil penalties or injunctive relief for non-compliance with the Unilateral Administrative Order issued by EPA to TCM on December 11, 2003, or (ii) for performance of the RI/FS, or for the recovery of Future RI/FS costs paid by TCAI. This covenant not to sue shall take effect upon the Effective Date of this Settlement Agreement, and is conditioned upon the satisfactory performance by TCAI and TCM of their obligations under this Agreement. This covenant not to sue extends to TCAI, TCM, Teck Cominco Alaska Incorporated and Teck Cominco Limited, and to the employees, officers, directors, and agents of each of them acting in their official capacities.

56. The United States reserves, and this Agreement is without prejudice to, all rights against TCAI and TCM with respect to all matters not expressly included within the United States' Covenant Not to Sue in paragraph 55, above. Notwithstanding any other provision of this Agreement, the United States reserves all rights against TCAI and TCM with respect to:

i. criminal liability;

ii. liability for damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of any natural resource damages assessment;

iii. liability for performance of response actions other than the RI/FS;

iv. liability, including but not limited to liability under Section 107 of CERCLA, for any costs incurred by the United States in connection with the Site not otherwise paid or reimbursement under this Agreement by TCAI;

v. liability, based upon TCAI's or TCM's transportation, treatment, storage, or disposal, or the arrangement for the transportation, treatment, storage, or disposal, of a hazardous substance or a solid waste at or in connection with the Site, after execution of this Settlement Agreement by TCAI or TCM; and

vi. liability arising from the past, present, or future disposal, release or threat of release of a hazardous substance, pollutant, or contaminant outside of the Site.

57. Subject to Paragraph 58, below, TCAI and TCM covenant not to sue and agree not to assert any claims or causes of action against the United States or its contractors or employees with respect to response actions performed or response costs incurred in connection with the RI/FS at the Site under this Agreement after the Effective Date of the Agreement, including but not limited to:

i. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law; and,

ii. any such claims arising under the United States Constitution, the Washington Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law.

For purposes of this Paragraph 57, the term "United States or its contractors or employees" does not include DOI, the Tribes or the State of Washington. This paragraph does not release any non-party for activities outside of its status as a federal contractor or employee.

58. Notwithstanding any other provision of this Agreement, other than Paragraphs 57.(i) and 78, TCAI and TCM reserve, and this Agreement is without prejudice to, any claim for recovery of or contribution to response costs or natural resource damages with respect to the Site based on the alleged liability of any United States agency other than EPA, or any other entity, under Sections 107 or 113 of CERCLA, 42 U.S.C. § 9607 and § 9613.

59. Except as expressly provided in this Agreement, each party reserves all rights and defenses it may have. Nothing in this Agreement shall affect EPA's removal authority or EPA's response or enforcement authorities including, but not limited to, the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

60. Following satisfaction of the requirements of this Agreement, TCAI and TCM shall have resolved their liability to EPA for the Work pursuant to this Agreement. TCAI and TCM are not released from liability, if any, for any response actions taken or response costs incurred beyond the scope of this Agreement.

XVII. DELAY IN OR FAILURE OF PERFORMANCE

61. "*Force Majeure*," for purposes of the Settlement Agreement, shall mean any event arising from causes beyond the control of TCAI and TCM, of any contractors employed by TCAI or TCM to implement the Settlement Agreement, or of any entity controlled by TCAI or TCM, that delays or prevents the performance of any obligation under the Settlement Agreement despite TCAI's best efforts to fulfill the obligation. "Best efforts to fulfill the obligation" includes best efforts to anticipate and avoid any potential force majeure event and to minimize any resulting delay to the greatest extent

possible. "*Force Majeure*" does not include financial inability or failure to attain required performance standards.

62. If any event occurs or has occurred that may delay the performance of any obligation of TCAI under this Agreement, whether or not caused by a *Force Majeure* event, TCAI shall notify by telephone the EPA Project Coordinator or, in his or her absence, the Region 10 Office of Environmental Cleanup Director, within five (5) business days of when TCAI actually knew that the event is likely to cause a delay. Within fifteen (15) business days thereafter, TCAI shall provide, in writing, the reasons for the delay, the anticipated duration of the delay, all actions taken or to be taken to prevent or minimize the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and a statement as to whether, in the opinion of TCAI, such event may cause or contribute to an endangerment to public health or the environment. TCAI shall exercise best efforts to avoid or minimize any delay and any effects of a delay. The parties recognize that failure to comply with the above written notice requirements shall entitle EPA to liquidated damages of $10,000 per day.

63. If EPA agrees that the delay or anticipated delay is properly justified under the terms of this Section, the time for performance of the TCAI obligations under this Agreement that are affected by the delaying event shall be extended by written agreement of the Parties for a period of time not to exceed the actual duration of the delay caused by the delaying event. An extension of the time for performance of the obligation directly affected by the delaying event shall not extend the time for performance of any subsequent obligation, unless that subsequent obligation depends upon the performance of the original obligation.

64. If EPA does not agree that the delay or anticipated delay is properly justified under the terms of this Section, or does not agree with TCAI on the length of the extension, the issue shall be subject to the Dispute Resolution procedures set forth herein. In any such proceeding, TCAI shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay is properly justified, that the duration of the delay was or will be warranted under the circumstances, that TCAI did exercise or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay, and that TCAI complied with the requirements of this Section. Should TCAI carry the burden set forth in this Paragraph, the delay at issue shall not be deemed to be a breach of this Agreement.

65. A delay in performance of a specific task required under this Agreement shall not affect TCAI's obligations to fully perform all other obligations it has under this Agreement that are not directly dependant on the initial delayed task. After a delay the parties shall establish new deadlines for all affected tasks.

66. TCAI shall be liable for liquidated damages for each failure to comply with the terms of this Agreement, unless such failure is attributable to a *Force Majeure*. Except where caused by *Force Majeure*, or unless it is determined in the course of Dispute Resolution or the Technical Review Process that there was no failure to comply, for each failure to comply with compliance milestones or to submit timely or

adequate reports or other deliverables required by this Agreement, TCAI shall pay liquidated damages in the amount of two thousand dollars ($2,000) per day for the first thirty (30) days, five thousand dollars ($5,000) per day for days thirty-one through sixty (31-60), and ten thousand dollars ($10,000) for each day thereafter until TCAI cures such failure. EPA may seek these contractual liquidated damages or statutory fines and penalties (if available), but not both. "Compliance" shall include completion of the activities under the Agreement or any work plan or other plan approved under the Agreement, in accordance with: all applicable requirements of law, the Agreement, the SOW, and any plans or other documents approved by EPA pursuant to the Agreement and within the specified time schedules established by and approved under the Agreement.

67. Where a revised submission by TCAI is required, liquidated damages shall continue to accrue until a satisfactory deliverable is produced. EPA will provide written notice for breaches of this Agreement that are not based on timeliness; nevertheless, damages shall accrue from the day a breach commences. Payment shall be due within thirty (30) days of receipt of a demand letter from EPA. TCAI shall pay interest on the unpaid balance, which shall begin to accrue at the end of the 30-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C. § 3717. If the liquidated damages are not paid in full within ninety (90) days after they are due, TCAI shall further pay a handling charge of one percent (1%), to be assessed at the end of each thirty-one (31) day period, and a six percent (6%) per annum penalty charge.

68. TCAI may dispute EPA's right to the stated amount of damages by invoking the Dispute Resolution procedures under Section X, above. Damages shall accrue, but need not be paid, during the dispute resolution period. If TCAI does not prevail upon resolution, all damages shall be due to EPA within thirty (30) days of resolution of the dispute. If TCAI prevails upon resolution, no damages shall be paid.

69. Except for the election between liquidated damages and fines or penalties required by Paragraph 66, the liquidated damages provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of TCAI's failure to comply with this Agreement, including, but not limited to, conduct of all or part of the RI/FS by EPA. Payment of liquidated damages does not alter TCAI's obligation to complete performance under this Agreement.

XVIII. EFFECT OF AGREEMENT ON OTHER CLAIMS/CONTRIBUTION PROTECTION

70. Upon the Effective Date of this Agreement, the EPA shall withdraw the UAO issued against TCM on or about December 11, 2003.

71. Except as expressly provided in this Agreement, the Parties reserve all rights, claims, and defenses they may have. Specifically, TCAI and TCM enter into this Agreement with the United States voluntarily, and this voluntary undertaking of the

obligations under this Agreement does not constitute and shall not be construed as an admission by TCAI, TCM, or any other person or entity of any fact or liability.

72. The participation of TCAI and TCM in this Agreement and the Work is not admissible in evidence against TCAI or TCM in any judicial or administrative proceeding other than a proceeding by one of the Parties hereto to enforce this Agreement.

73. Except as provided by Paragraphs 57 and 58, TCAI and TCM retain their rights to assert claims against other potentially responsible parties at the Site.

74. Nothing in this Agreement is intended to be nor shall it be construed as a release, covenant not to sue, or compromise of any claim or cause of action, administrative or judicial, civil or criminal, past or future, at law or in equity, which the United States, TCAI or TCM may have against any person or other entity not a Party to this Agreement or which an entity other than a Party may have against TCAI, TCM or the United States.

75. Nothing in this Agreement shall be construed to create any rights in, or grant any cause of action to or establish a basis for jurisdiction in local, state or federal courts in the United States for, any person not a Party to this Agreement. The Parties reserve any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action that they may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto, and against any agency of the United States other than the EPA.

76. The Parties agree that by compliance with this Agreement, TCAI and TCM are entitled to the full extent of the benefits provided by Section 113(f)(2) of CERCLA, 42 U.S.C. §9613(f)(2), for all matters addressed in this Agreement. For the purposes of this Paragraph "matters addressed" are the performance of the Work and the payment of all costs paid or to be paid by TCAI under this Agreement.

XIX. MISCELLANEOUS

77. This Agreement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

78. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. §300.700(d).

79. No Party by entering into this Agreement, assumes any liability for any injuries or damages to persons or property resulting from acts or omissions by any other Party.

80. Whenever, under the terms of this Agreement, notice is required to be given or a document is required to be sent by one Party to another, in addition to any specific provision contained herein, it shall be directed to the individuals at the

addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of this Agreement with respect to the United States, EPA, TCAI, and TCM:

As to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P. O. Box 7611
Washington, D.C. 2004-7611
RE: DJ #90-11-2-07883

As to EPA:

Director, Environmental Cleanup Office
U.S. Environmental Protection Agency,
Region 101200 Sixth Avenue, ECL-117
Seattle, WA 98101
Regional Counsel
U.S. EPA Region 10,
ORC-158
1200 Sixth Avenue
Seattle, WA 98101

Kevin Rochlin
EPA Project Coordinator
U. S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

As to TCAI:

C. Bruce DiLuzio, Esq.
Vice President, Law and Administration
Teck Cominco American Incorporated
P.O. Box 3087
Spokane, WA 99220

David W. Godlewski
Vice President, Environment and Public Affairs
Teck Cominco American Incorporated
P.O. Box 3087
Spokane, WA 99220

As to TCM:

G. Leonard Manuel, Esq.
Vice President and General Counsel
Teck Cominco Metals Ltd.
600-200 Burrard Street
Vancouver, B.C. V6C3L7

81. This Agreement and its Exhibits A and B constitute the final, complete and exclusive Agreement and understanding among the Parties with respect to the settlement embodied in this Agreement. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Agreement.

82. This Agreement may be amended by mutual agreement of EPA, TCAI and TCM. Amendments shall be in writing and shall be effective when signed by authorized representatives of EPA, TCAI and TCM. EPA Project Coordinators do not have the authority to sign amendments to the Agreement.

83. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by TCAI will be construed as relieving TCAI of its obligation to obtain such formal approval as may be required by this Agreement. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules, and attachments required by this Agreement are, upon approval by EPA, incorporated into this Agreement.

84. This Agreement shall terminate when TCAI demonstrates, in writing, and certifies to the satisfaction of EPA that all activities required under this Agreement, including any additional work, payment of Future RI/FS Costs, Participation Costs, and any liquidated damages owed under this Agreement, have been performed and EPA has approved the certification. This notice shall not, however, terminate the parties' obligations to comply with Sections XV and XVI of this Agreement.

IT IS SO AGREED:

FOR THE UNITED STATES OF AMERICA:

Date: 6-2-06

By: _____
John C. Cruden
Deputy Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Date: 6/2/06 By: _____

Ann R. Klee
General Counsel
U.S. Environmental Protection Agency

Date: June 2, 2006 By: _____

L. Michael Bogert
Regional Administrator, Region X
U.S. Environmental Protection Agency

FOR TCM:

Date: 6/2/6 By: _____

Douglas H. Horswill
Senior Vice President
Environment and Corporate Affairs
Teck Cominco Metals Ltd

FOR TCAI:

Date: 6/2/06 By: _____

David W. Godlewski
Vice President, Environment & Public Affairs
Teck Cominco American Incorporated

Exhibit A

STATEMENT OF WORK FOR REMEDIAL INVESTIGATIONS AND FEASIBILITY STUDIES UPPER COLUMBIA RIVER SITE

INTRODUCTION

The purpose of this Remedial Investigation/Feasibility Study (RI/FS) is to investigate the nature and extent of contamination at the Upper Columbia River site (Site), provide information for the U.S. Environmental Protection Agency's Baseline Risk Assessment for human health and the environment and develop and evaluate potential remedial alternatives. The RI and FS are interactive and may be conducted concurrently so that the data collected in the RI influences the development of remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies.

The U.S. Environmental Protection Agency (EPA) will coordinate closely with the state of Washington, the Confederated Tribes of the Colville Reservation (CCT), the Spokane Tribe and the U.S. Department of the Interior (DOI) in the development of the details of work plans, sampling and analysis plans and other project documentation. EPA will work closely with the state of Washington, the CCT, the Spokane Tribe and DOI in the review of deliverables.

The Company shall conduct the remaining tasks of the RI/FS except for the Baseline Human Health Risk Assessment and will produce a draft RI and FS report that are in accordance with this statement of work (SOW), the Guidance for Conducting Remedial Investigations and Feasibility Studies under the Comprehensive Environmental Response, Compensation, and Liability Act (U.S. EPA, Office of Emergency and Remedial Response, October 1988), Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (U.S. EPA, 2005), Ecological Risk Assessment Guidance for Superfund U.S. EPA (1997), the Eco Risk Assessment and Risk Management Principles (1999), Guidelines for Ecological Risk Assessment U.S. EPA 1998) and any other guidance that EPA uses in conducting an RI/FS (a list of the primary guidance is attached), as well as any additional requirements in the Agreement. The Framework for Inorganic Metals Risk Assessment (U.S. EPA Risk Assessment Forum, November 2004) will be considered in this RI/FS. However, this document is still under Peer Review, and so is not EPA guidance. The RI/FS Guidance describes the report format and the required report content. The Company shall furnish all necessary personnel, materials, and services needed, or incidental to, performing the RI/FS, except as otherwise specified in the Agreement.

At the completion of the RI/FS, EPA will be responsible for the selection of a Site remedy and will document this selection in a Record of Decision (ROD). The remedial

action alternative selected by EPA will meet the cleanup standards specified in Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final RI/FS report, as adopted by EPA, and EPA's Baseline Risk Assessment will, with the administrative record, form the basis for the selection of the Site's remedy and will provide the information necessary to support the development of the ROD.

As specified in Section 104(a)(1) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), EPA will provide oversight of the Company's activities throughout the RI/FS. The Company shall support EPA's initiation and conduct of activities related to the implementation of oversight activities.

Unless otherwise directed by EPA, all documents shall be submitted in draft form to the EPA, DOI and the state of Washington, the CCT, and the Spokane Tribe (the Three Sovereigns). The Company shall be notified at a later date about the number of copies required, and the locations to send the documents. EPA, DOI, and the Three Sovereigns after reviewing the submittals will provide comments to the Company. As determined by EPA, the Company will either provide comment responses to EPA, DOI, and the Three Sovereigns, prior to revising the documents, or will revise the document based on the comments provided. The documents will then be resubmitted. EPA may require that additional changes be made based on a review of the resubmitted documents.

There are some aspects of the work that will be conducted on DOI managed, and tribal and state lands. Work in these areas must follow federal, state, and tribal legal and regulatory requirements pertaining to such work.

The Company shall provide financial support to EPA for EPA to set up and manage a database for site information/data.

TASK 1 - SCOPING

Scoping is the initial planning process of the RI/FS. The Company shall conduct, with EPA oversight and approval, the remaining tasks in the RI/FS which has thus far been performed by EPA. EPA will provide the Company with copies of all relevant documents related to the investigation. These include Scoping Documents, Work

Plans, Sampling Plans, Data Results and Data Evaluations. Scoping is repeated as necessary, and refined throughout the RI/FS process as determined by EPA. In addition to developing the Site-specific objectives of the RI/FS, EPA will determine a general management approach for the Site. Consistent with the general management approach, the specific project scope will be planned by the Company and EPA. Following EPA approval the Company shall document the specific project scope in a work plan. Because the work required to perform an RI/FS is not fully known at the onset, and is phased in accordance with a site's complexity and the amount of available information, it may be necessary to modify the work plans during the RI/FS to satisfy the objectives of the study.

When scoping the specific aspects of a project, the Company must meet with EPA to discuss all project planning decisions and special concerns associated with the Site. The following activities shall be performed by the Company as a function of the project planning process.

a. Site Background

The Company shall gather and analyze the existing Site background information and the information collected by EPA during the RI/FS, and shall conduct a Site visit to assist in planning the scope of the RI/FS.

Problem Formulation

The Company shall prepare a problem formulation which will update the goals of the remaining investigation and define the preliminary assessment endpoints, measurement endpoints, and conceptual site models, including fate and transport, for the various exposure pathways and receptors in the Site and outline the preliminary risk management-based action objectives. Risk management-based action objectives shall be developed. Risk management-based action objectives shall have the same meaning as remedial action objectives in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and their development shall be consistent with the NCP.

Collect and Analyze Existing Data and Document the Need For Additional Data

Before planning RI/FS activities, all existing Site data shall be thoroughly compiled and reviewed by the Company. Specifically, this must include presently available data relating to the varieties and quantities of hazardous substances at the Site, and past disposal practices, and the information collected by EPA during the RI/FS. This must also include results from EPA's fish and sediment studies as well as any previous sampling events that may

have been conducted. The existing information will be utilized in determining additional data needed to characterize the Site, better define potential applicable or relevant and appropriate requirements (ARARs), and develop a range of preliminarily identified remedial alternatives. Data Quality Objectives (DQOs) have been established by EPA for determining the acceptability of existing data. Subject to EPA approval, the Company may propose modifications to these DQOs. Final decisions on the usability of the data and DQOs will be made by EPA.

Provide Facility Related Information to the EPA

The Company agrees to cooperatively provide data on the Trail facility operations, including but not limited to multiple lines of production and recycling of hazardous materials, to fully identify contaminants of potential concern and for models (including the Conceptual Site Model).

Conduct Site Visit

The Company shall conduct a Site visit during the project scoping phase to assist in developing a conceptual understanding of sources and areas of contamination as well as fate and transport and potential exposure pathways and receptors at the Site. During the Site visit the Company should observe the Site's physiography, hydrology, geology, and demographics, as well as natural resource, ecological, and cultural features. This information will be utilized to better scope the project and to determine the extent of additional data necessary to characterize the Site, better define potential ARARs, and narrow the range of preliminarily identified remedial alternatives.

b. Project Planning

Once the Company has collected and analyzed existing data and conducted a Site visit, the specific project scope will be planned. Project planning activities include those tasks described below, as well as identifying data needs, developing a work plan, designing a data collection program, and identifying health and safety protocols. The Company shall meet with EPA regarding the following activities and before the drafting of the scoping deliverables below.

Because this study will be conducted using a tiered approach, there may be iterations of planning and implementation documents prepared before the final RI/FS is completed.

Refine and Document Preliminary Risk Management-based Action Objectives and Remedial Alternatives

Once existing Site information has been analyzed and an understanding of the potential Site risks has been determined by EPA, the Company shall review and, if necessary, refine the risk management-based action objectives for each actually or potentially contaminated medium. The revised risk management-based action objectives must be documented in a technical memorandum and subject to EPA approval. The Company shall then identify a preliminary range of broadly defined potential remedial action alternatives and associated technologies. The range of potential preliminary alternatives must encompass, where appropriate, alternatives in which treatment significantly reduces the toxicity, mobility, or volume of the waste; alternatives that involve containment with little or no treatment; and a no-action alternative. Potential sediment remedies are found in the Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (U.S. EPA, 2005).

Tiered Screening Level Risk Assessments

Consistent with the Ecological Risk Assessment Guidance for Superfund, a screening level risk assessment will be conducted on existing data. The contaminants of concern will then be refined through a reevaluation of assumptions inherent in the screening level risk assessment. EPA may require that the Company conduct additional screening level risk assessments (SLRAs) iteratively to data collected as part of subsequent investigational tiers.

Document the Need For Treatability Studies

If remedial actions involving treatment have been identified by the Company or EPA, treatability studies may be required.

Begin Preliminary Identification of Potential ARARs

The Company shall conduct a preliminary identification of potential state and federal ARARs (chemical-specific, location-specific, and action specific) to assist in the refinement of risk management-based action objectives and the initial identification of remedial alternatives and ARARs associated with particular actions. ARAR identification must continue as Site conditions, contaminants, and remedial action alternatives are better defined.

c. Scoping Deliverables

At the conclusion of the project planning phase, the Company shall submit an RI/FS work plan, a sampling and analysis plan, a Site health and safety plan and a cultural resource plan. The RI/FS work plan, sampling and analysis plan, and cultural resource plan must be reviewed and approved by EPA prior to the initiation of field activities.

Because this study will be conducted using a tiered approach, there may be iterations of planning and implementation documents prepared before the final RI/FS is completed.

RI/FS Work Plan

A work plan documenting the decisions and evaluations completed during the scoping process must be submitted to EPA for review and approval. The work plan must be developed in conjunction with the sampling and analysis plan and the Site health and safety plan, although each plan may be delivered under separate cover. The work plan must include a comprehensive description of the work to be performed, including the methodologies to be utilized, as well as a corresponding schedule for completion. In addition, the work plan must include the rationale for performing the required activities. Specifically, the work plan must present a statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the RI/FS. Furthermore, the plan must include a Site background summary setting forth the Site description including the geographic location of the Site, and to the extent possible, a description of the Site's physiography, hydrology, geology, demographics, ecological, cultural, and natural resource features; a synopsis of the Site history and a description of previous responses that have been conducted at the Site by local, state, federal, or private parties; a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at the Site. In addition, the plan must include a description of the Site management strategy; a preliminary identification of remedial alternatives and data needs for evaluation of remedial alternatives. It must include a process for and manner of identifying federal and state ARARs (chemical-specific, location-specific, and action-specific).

For activities conducted on tribal or Department of Interior (DOI) lands, the plan shall provide for obtaining the necessary tribal permits and approvals, and for meeting access requirements.

Finally, the major part of the work plan is a detailed description of the tasks to be performed, information needed for each task and for the Baseline Risk

Assessment, information to be produced during and at the conclusion of each task, and a description of the work products that will be submitted to or generated by EPA. This includes the deliverables set forth in the remainder of this statement of work; a schedule for each of the required activities which is consistent with the RI/FS guidance; and a project management plan, including a data management plan (e.g., requirements for project management systems and software, minimum data requirements, data format and backup data management), monthly reports to EPA and meetings and presentations to EPA at the conclusion of each major phase of the RI/FS. The Company shall refer to Appendix B of the RI/FS Guidance for a comprehensive description of the contents of the required work plan. Because of the unknown nature of the Site and iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. The Company shall submit technical memoranda documenting the need for additional data, and identifying the DQOs whenever such requirements are identified. In any event, the Company must fulfill additional data and analysis needs identified by EPA consistent with the general scope and objectives of this RI/FS.

The plan should include provisions for meeting with EPA and other stakeholders on a regular basis. During these meetings, the Company will review RI/FS progress and discuss plans for future activities.

Sampling and Analysis Plan

The Company shall prepare a sampling and analysis plan (SAP) to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that the data meet DQOs. The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP).

The FSP must define in detail the sampling and data-gathering methods that will be used on the project. It must include sampling objectives, sample location and frequency, sampling equipment and procedures, and sample handling and analysis. The QAPP must describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired DQOs. The DQOs must, at a minimum, reflect use of analytic methods to identify contamination and remediate contamination consistent with the levels for risk management-based action objectives identified in the proposed National Oil and Hazardous Substances Pollution Contingency Plan (NCP), pages 51425-26 and 51433 (December 21, 1988). In addition, the QAPP must address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting, and

personnel qualifications. Field personnel should be available for EPA QA/QC training and orientation where applicable. The Company shall demonstrate, in advance and to EPA's satisfaction, that each laboratory it may use is qualified to conduct the proposed work. This includes use of methods and analytical protocols for the chemicals of concern in the media of interest within detection and quantification limits consistent with both QA/QC procedures and DQOs approved in the QAPP for the Site by EPA. The laboratory must have and follow an approved QA program. If a laboratory not in the Contract Laboratory Program (CLP) is selected, methods consistent with CLP methods that would be used at this Site for the purposes proposed and QA/QC procedures approved by EPA must be used. If the laboratory is not in the CLP program, a laboratory QA program must be submitted for EPA review and approval. EPA may require that the Company submit detailed information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment, and material specifications. The Company must provide assurances that EPA has access to laboratory personnel, equipment, and records for sample, collection, transportation, and analysis.

Site Health and Safety Plan

A health and safety plan must be prepared in conformance with the Company's health and safety program, and in compliance with Occupational Safety and Health Administration regulations and protocols and Washington State law. The health and safety plan must include the eleven (11) elements described in the RI/FS Guidance, such as a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and site control. It should be noted that EPA does not "approve" the Company's health and safety plan, but rather EPA reviews it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment.

Cultural Resources Coordination Plan

Section 106 of the National Historic Preservation Act (NHPA) requires EPA to take into account the effects of its undertakings on historic properties. This includes archaeological sites, historic sites and traditional cultural properties that are eligible to the National Register of Historic Places. (36 Code of Federal Regulations 800.)

The NHPA also requires EPA to consult with other parties that have an interest in the effects of the planned undertaking and provide them a reasonable opportunity to comment on such undertakings. These parties include the State

Historic Preservation Officer and the concerned Tribal Historic Preservation Officers.

Although compliance with Section 106 of the NHPA is the responsibility of the EPA, the Company shall prepare the Upper Columbia River RI/FS Cultural Resources Coordination Plan and work with the parties potentially affected by the activities. All cultural resources coordination activities conducted by the Company will be subject to oversight and approval by EPA.

For all RI/FS activities at the Site involving sediment collection or ground penetration/disturbance, the Company shall work with the potentially affected parties to assess the effects of the planned work and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

The Cultural Resources Coordination Plan shall provide detailed consultation procedures, a detailed description of the sampling program and the methods to be employed to secure sediment/soil samples, information on the nature of the physical impacts that could be anticipated by sediment/soil sampling operations, resource protection measures, and pertinent background information. The Plan shall also identify the state, tribal, and federal parties involved in cultural resources coordination and consultation. Those parties shall be given the opportunity to review and comment on the Plan.

Once EPA's comments and the potentially affected parties' comments have been addressed by the Company to EPA's satisfaction, the finalized plan shall be provided to EPA with copies of all correspondence received by the Company during their consultation efforts with the consulted parties.

Sediment sampling cannot be performed at the Upper Columbia River Site without (1) clearance of proposed sediment sample locations by tribal and federal/state cultural resources coordinators and (2) a Cultural Resources Coordination Plan approved by EPA. The affected parties may require the Company to allow Cultural Resource observers to accompany sampling teams.

TASK 2 - COMMUNITY RELATIONS

The development and implementation of community relations activities are the responsibility of EPA. The critical community relations planning steps performed by EPA include conducting community interviews and developing a community relations plan, and communications with local, state, and tribal government representatives. In addition, EPA will be responsible for conducting public meetings and workshops. The

implementation of the community relations plan is the responsibility of EPA. EPA and the tribal governments will be responsible for community relations targeted to tribal members. EPA may request that the Company assist by providing information regarding the Site's history, or participating in public meetings. The extent of the Company's involvement in community relations activities is left to the discretion of EPA. The Company's community relations responsibilities, if any, are specified in the community relations plan. All community relations activities conducted by the Company will be subject to approval and oversight by EPA.

TASK 3 - SITE CHARACTERIZATION

As part of the RI, the Company shall perform the activities described in this task, including the preparation of a site characterization summary and a RI report. The overall objective of site characterization is to describe areas of a site that may pose a threat to human health or the environment, and understand the fate and transport of contaminants that threaten human health or the environment. This is accomplished by first determining a site's physiography, geology, and hydrology. Surface and subsurface pathways of migration must be defined. The Company shall identify the sources of contamination and define the nature, extent, and volume of the sources of contamination, including their physical and chemical constituents as well as their concentrations at incremental locations to background in the affected media. The Company shall also investigate the extent of migration of this contamination as well as its volume and any changes in its physical or chemical characteristics, to provide for a comprehensive understanding of the nature and extent of contamination at the Site. Using this information, contaminant fate and transport is then determined and projected.

During this phase of the RI/FS, the work plan, SAP, cultural resource coordination plan, and health and safety plan are implemented. Field data are collected and analyzed to provide the information required to accomplish the objectives of the study. The Company shall notify EPA at least six weeks in advance of the field work regarding the planned dates for field activities, including ecological field surveys, field layout of any required sampling locations, sediment sampling, fish and wildlife collection, excavation, installation of wells, initiating sampling, installation, and calibration of equipment, pump tests, and initiation of analysis and other field investigation activities. The Company shall demonstrate that the laboratory and type of laboratory analyses that will be utilized during site characterization meets the specific QA/QC requirements and the DQOs of the site investigation as specified in the SAP. In view of the unknown site conditions, activities are often iterative, and to satisfy the objectives of the RI/FS it may be necessary for the Company to supplement the work specified in the initial work plan.

In addition to the deliverables below, the Company shall provide a monthly progress report and participate in meetings at major points in the RI/FS.

For field activities conducted on tribal or DOI lands, observers from the respective landowners or managers may accompany the field crews. Due to the complexity of this Site, the investigation shall be performed using a tiered approach. The first set of investigations has already been conducted by EPA. Each field event will be used to determine what/whether additional information is needed.

A list of potential studies to be performed during the next phases of the investigation is provided in Appendix A. As the RI/FS progresses, EPA may determine that not all of the studies which the Company will be required to perform have been identified in the Appendix. Additional studies may be identified during the RI/FS process that the Company will be required to perform. Conversely, EPA may determine that not every study currently identified in the Appendix will be required.

a. Field Investigation

The field investigation includes the gathering of data to define Site physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. These activities must be performed by the Company in accordance with the work plan, cultural resource coordination plan, and SAP. At a minimum, this shall address the following:

Implement and Document Field Support Activities

The Company shall initiate field support activities following approval of the work plan and SAP. Field support activities may include obtaining access to the Site, scheduling, and procuring equipment, office space, laboratory services, and/or contractors. The Company shall notify EPA at least six weeks prior to initiating field support activities so that EPA may adequately schedule oversight tasks. The Company shall also notify EPA, in writing, upon completion of field support activities.

Investigate and Define Site Physical and Biological Characteristics

The Company shall collect additional data on the physical and biological characteristics of the Site and its surrounding areas, including the physiography, geology, and hydrology, and specific physical characteristics identified in the work plan. This information shall be ascertained through a combination of physical measurements, observations, and sampling efforts, and will be utilized to define potential transport pathways and human and ecological receptor

populations. In defining the Site's physical characteristics the Company shall also obtain sufficient engineering data (such as river/reservoir characteristics) for the projection of contaminant fate and transport, and development and screening of remedial action alternatives, including information to assess treatment technologies.

Define Sources of Contamination

The Company shall locate and define sources of contamination. The aerial extent and depth of contamination shall be determined. The physical characteristics and chemical constituents and their concentrations shall be determined for all known and discovered areas and sources of contamination. The Company shall conduct sufficient sampling to define the boundaries of the contaminant sources to the level established in the QA/QC plan and DQOs.

Defining contamination shall include analyzing the potential for contaminant release (e.g., long term leaching), contaminant mobility and persistence, and characteristics important for evaluating remedial actions, including information to assess treatment technologies.

Describe the Nature and Extent of Contamination

The Company shall gather information to describe the nature and extent of contamination as a final step during the field investigation. To describe the nature and extent of contamination, the Company shall utilize the information and Site physical and biological characteristics and sources of contamination to give a preliminary estimate of the contaminants that may have migrated. The Company shall then implement any study program identified in the work plan or SAP such that by using analytical techniques sufficient to detect and quantify the concentration of contaminants, the migration of contaminants through the various media at the Site can be determined. In addition, the Company shall gather data for calculations of contaminant fate and transport. This process must be continued until the area and depth of contamination are known to the level of contamination established in the QA/QC plan and DQOs. The Company will use the information on the nature and extent of contamination, the Ecological Risk Assessment, and EPA's Baseline Human Health Risk Assessment to determine the level of risk presented by the Site and determine aspects of the appropriate remedial action alternatives to be evaluated.

b. Data Analyses

Evaluate Site Characteristics

The Company shall analyze and evaluate the data to describe: (1) Site physical and biological characteristics; (2) contaminant source characteristics; (3) nature and extent of contamination; and (4) contaminant fate and transport. Results of the Site physical characteristics, source characteristics, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation must include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as mobility and persistence of contaminants. Where modeling is appropriate, such models shall be proposed to EPA in a technical memorandum prior to their approval and use. All data and programming, including any proprietary programs, shall be made available to EPA. The RI data also shall be presented in a format (i.e., computer disc or equivalent) to facilitate EPA's preparation of the Baseline Risk Assessment. The Company shall agree to discuss and then collect data to fill any data gaps identified by EPA that is needed to complete the Baseline Risk Assessment. (See "Guidance for Data Usability in Risk Assessment – Office of Solid Waste and Emergency Response Directive # 9285.7-05 - October 1990.) Also, this evaluation shall provide any information relevant to Site characteristics necessary for evaluation of the need for remedial action in the Baseline Risk Assessment and for the development and evaluation of remedial alternatives. Analyses of data collected for Site characterization must meet the DQOs developed in the QA/QC plan stated in the SAP (or revised during the RI).

c. Data Management Procedures

The Company shall consistently document the quality and validity of field and laboratory data compiled during the RI.

Document Field Activities

Information gathered during Site characterization shall be consistently documented and adequately recorded by the Company in well-maintained field logs and laboratory reports. The method(s) of documentation must be specified in the work plan and/or the SAP. Field logs must be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports must document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.

Maintain sample management and tracking

The Company shall maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the development and evaluation of remedial alternatives. Analytical results developed under the work plan shall not be included in any Site characterization reports unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, the Company shall establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.

d. Site Characterization Deliverables

Because this study is being conducted in a tiered iterative manner, there may be additional phases of Site characterization reports and associated risk assessments prepared before the final RI.

Following the RI investigative work, the Company shall prepare a preliminary Site characterization summary and once the EPA's Baseline Human Health Risk Assessment, and the Ecological Risk Assessment (Task 4) is complete, the remedial investigation report.

Preliminary Site Characterization Summary

After completing field sampling and analysis, the Company shall prepare a concise Site characterization summary. This summary must review the investigative activities that have taken place, and describe and display Site data documenting the location and characteristics of surface and subsurface features and contamination at the Site, including the affected medium, location, types, physical state, concentration of contaminants and quantity. In addition, the location, dimensions, physical condition and varying concentrations of each contaminant throughout each source, and the extent of contaminant migration through each of the affected media shall be documented. The Site characterization summary must provide EPA with a preliminary reference for developing the Baseline Risk Assessment, and evaluating the development and screening of remedial alternatives, and the refinement and identification of ARARs.

Remedial Investigation (RI) Report

The Company shall prepare and submit a draft RI report to EPA for review and approval after EPA's completion of the Baseline Human Health Risk

Assessment and the completion of the Ecological Risk Assessment (see Task 4). This report shall summarize results of field activities to characterize the Site, sources of contamination, nature and extent of contamination, and the fate and transport of contaminants. The Company shall refer to the RI/FS Guidance for an outline of the report format and contents. Following comment by EPA, the Company shall prepare a final RI report which satisfactorily addresses EPA's comments.

TASK 4 - RISK ASSESSMENT

A Baseline Human Health Risk Assessment shall be completed by EPA during the RI/FS process. The Company shall complete an Ecological Risk Assessment during the RI/FS process. Information and environmental data collected and validated as representative of site conditions will be used by EPA to quantitatively describe the potential excess human health risk and by the Company to quantitatively describe the ecological risk posed by the site in the absence of remediation. This Risk Assessment process is used to characterize the risk posed to human health or the environment by environmental conditions at the Site. Prior to performing the Ecological risk assessment, the Company must submit an Ecological risk assessment work plan that provides, at a minimum: a site-specific conceptual exposure model which either graphically illustrates or states the impacted media and all the primary and secondary exposure pathways; and lists all contaminants of concern; standard exposure parameters and methodologies for determining Ecological risk. The Ecological Risk Assessment shall be conducted in compliance with the NCP and shall be performed in accordance with EPA guidance. The work plan must be approved by EPA prior to commencing the Ecological Risk Assessment

The baseline Human Health Risk Assessment shall be completed by EPA in cooperation with and participation by the Company. EPA will coordinate closely with state of Washington, the CCT and the Spokane Tribe and DOI in the development and implementation of the Baseline Human Health Risk Assessment.

The Company will carry out or fund survey studies of consumption, recreational use and resource use for both present and future use scenarios at the Site as per work plans for use in the baseline Human Health Risk Assessment. EPA will determine whether the Company will conduct the recreational survey, or whether the survey will be funded by the Company, but conducted by a third party or EPA.

To the extent that surveys involve interviews of Tribal members regarding resource consumption or use, or the collection of information of cultural significance to the

Tribes, the surveys will be funded by the Company, and developed by EPA with the involvement of the Company and the Tribes.

For studies, surveys, and field sampling pertaining to tribal customs and practices, the Tribes and EPA will first coordinate with the Company regarding possible approaches and methods. After such discussions with the Company, the Tribes, in consultation with EPA, will develop work plans, FSPs, and QAPPs. EPA and the Tribes will provide such documents to the Company and the State for comment, with information of a culturally sensitive nature redacted as appropriate. The Tribes will implement those studies involving tribal behavior, customs, and practices (an illustrative type of study is fish consumption and tribal uses of native plants) and may implement other studies and field sampling efforts on reservation as agreed by the Parties.

It is recognized that, due to the nature of the effort, actual conduct of the interview/survey process will be conducted by the Tribes. A process will be developed that will allow review of raw data, study findings, and analyses by an independent third party, selected by EPA, without compromising confidential data. EPA shall maintain the materials, with the exception of raw data, related to the development of such surveys and survey instruments. The Tribes shall maintain the documents concerning the administration of such surveys including all raw data collected in such surveys. The analytical results of such surveys shall be maintained by EPA, subject to appropriate confidentiality protections, and be available to the Company.

To the extent that EPA or the Company are conducting studies involving access to a reservation, they shall coordinate with the appropriate tribal government and obtain the appropriate permits and approvals. The Parties understand that submerged areas underlying portions of the Upper Columbia River and Lake Roosevelt lie on the reservations of the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians and DOI lands and that such areas contain culturally significant sites. For surveys on DOI lands, DOI and EPA will coordinate with the Company regarding possible approaches and methods.

a. Draft and Final Ecological Risk Assessment Work Plan

The Company will prepare a draft and final Ecological Risk Assessment Work Plan that is consistent with the methods and procedures outlined in the Agency's ecological risk assessment guidance documents for CERCLA. The Work Plan will outline the approach and methods for use in all screening and risk assessments for ecological receptors. The Ecological Risk Assessment Work Plan will, at a minimum, identify the following:

Ecological Risk Assessment (ERA)

Problem Formulation

i. Site Physical Description and Setting
ii. Chemicals of Concern
iii. Data Types and Uses in ERA
iv. Ecological Receptors
v. General Assessment Endpoints and Measures
vi. Conceptual Site Model(s)
vii. Management Goals
viii. Analysis Plan (including proposed screening-level procedures)

Ecological Risk Assessment Methods

ix. Exposure Assessment (parameter values for species receptors)
x. Effects Characterization (toxicity reference values)
xi. Risk Characterization (uncertainty, site-specific and other lines of evidence to be used to support/refute risk.)

b. Draft and Final Human Health Risk Assessment Work Plan

The EPA will prepare a draft and final Human Health Risk Assessment Work Plan that is consistent with the methods and procedures outlined in the Agency's risk assessment guidance documents for CERCLA.

TASK 5 - TREATABILITY STUDIES

The scheduling and scope of this task will be determined as the RI progresses by the results of the RI. Treatability testing shall be performed by the Company to assist in the detailed analysis of alternatives. In addition, if applicable, testing results and operating conditions shall be used in the detailed design of the selected remedial technology. The following activities shall be performed by the Company.

a. Determination of Candidate Technologies and of the Need for Testing

The Company shall identify in a technical memorandum, subject to EPA review and approval, candidate technologies for a treatability studies program during project planning (Task 1). The listing of candidate technologies must cover the range of

technologies required for alternatives analysis (Task 6a and 7a.) The specific data requirements for the testing program may be determined after the completion of the risk evaluation phases (Tasks 1, 3 and 4).

Conduct Literature Survey and Determine the Need for Treatability Testing

The Company shall conduct a literature survey to gather information of performance, relative costs, applicability, removal efficiencies, operation and maintenance (O&M) requirements, and implementability of candidate technologies. If uncertainty remains after completion of the RI/FS process and identification of risk-based remedial options, additional studies may be required. Where it is determined by EPA that treatability testing is required, and unless the Company can demonstrate to EPA's satisfaction that they are not needed, the Company shall submit a statement of work to EPA outlining the steps and data necessary to evaluate and initiate the treatability testing program.

Evaluation of Treatability Studies

Once a decision has been made to perform treatability studies, EPA, with input from the Company, will decide on the type of treatability testing to use (e.g., bench versus pilot). Because of the time required to design, fabricate, and install pilot scale equipment as well as perform testing for various operating conditions, the decision to perform pilot testing should be made as early in the process as possible to minimize potential delays of the FS. To assure that a treatability testing program is completed on time, and with accurate results, the Company must either submit a separate treatability testing work plan or an amendment to the original Site work plan for EPA review and approval.

b. Treatability Testing and Deliverables

The deliverables that are required, in addition to the memorandum identifying candidate technologies, where treatability testing is conducted, include a work plan, a sampling and analysis plan, and a final treatability evaluation report. EPA may also require a treatability study health and safety plan and a cultural resources coordination plan, where appropriate.

Treatability Testing Work Plan

The Company shall prepare a treatability testing work plan or amendment to the original Site work plan for EPA review and approval describing the Site background, remedial technology(ies) to be tested, test objectives, experimental procedures, treatability conditions to be tested, measurements of performance,

analytical methods, data management and analysis, health and safety, and residual waste management. The DQOs for treatability testing should be documented as well. If pilot scale treatability testing is to be performed, the pilot scale work plan must describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, operating conditions to be tested, a sampling plan to determine pilot plant performance, and a detailed health and safety plan. If testing is to be performed off-site, permitting requirements must be addressed.

Treatability Study Sampling and Analysis Plan

If the original QAPP or FSP is not adequate for defining the activities to be performed during the treatability tests, a separate treatability study SAP or amendment to the original Site SAP must be prepared by the Company for EPA review and approval. Task 1c of this statement of work provides additional information on the requirements of the SAP.

Treatability Study Health and Safety Plan

If the original health and safety plan is not adequate for defining the activities to be performed during the treatment tests, a separate or amended health and safety plan must be developed by the Company. Task 1c. of this statement of work provides additional information on the requirements of the health and safety plan. EPA does not "approve" the treatability study health and safety plan.

Treatability Cultural Resources Coordination Plan

If the activities to be performed during the treatability tests involve the collection of sediment/soil samples and/or any ground penetration/disturbance at the Upper Columbia River Site, the Company will consult with the affected state, tribal and federal cultural resources coordinators to assess the effects of the planned work and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. If EPA determines that a treatability cultural resources coordination plan is necessary, the Company will prepare the plan under EPA oversight and in coordination with the affected state, tribal and federal entities (see Section 1c.)

Treatability Study Evaluation Report

Following completion of treatability testing, the Company shall analyze and interpret the testing results in a technical report to EPA. Depending on the

sequence of activities, this report may be a part of the RI/FS report or a separate deliverable. The report must evaluate each technology's effectiveness, implementability, cost, and actual results as compared with predicted results. The report must also evaluate full scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation.

TASK 6 - DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

The development and screening of remedial alternatives is performed to develop an appropriate range of waste management options that will be evaluated. This range of alternatives should include, as appropriate, options in which treatment is used to reduce the toxicity, mobility, or volume of wastes, but varying in the types of treatment, the amount treated, and the manner in which long-term residuals or untreated wastes are managed; options involving containment with little or no treatment; options involving both treatment and containment; and a no-action alternative. The following activities shall be performed by the Company as a function of the development and screening of remedial alternatives.

a. Development and Screening of Remedial Alternatives

The Company shall begin to develop and evaluate a range of appropriate waste management options that, at a minimum, ensure protection of human health and the environment, at an appropriate time in the RI/FS process.

Refine and Document Risk Management-based Action Objectives

Based on the Baseline Risk Assessments, the Company shall review and, if necessary, modify the Site-specific risk management-based action objectives, specifically the initial screening-level benchmarks to be established by EPA during negotiations between EPA and the Company. Initial screening-level benchmarks shall be developed. Initial screening-level benchmarks shall have the same meaning as preliminary remediation goals (PRGs) in the NCP and their development shall be consistent with the NCP. The revised initial screening-level benchmarks must be documented in a technical memorandum that will be reviewed and approved by EPA. These modified initial screening-level benchmarks must specify the contaminants and media of interest, exposure pathways and receptors, and an acceptable contaminant level or range of levels (at particular locations for each exposure route).

Develop General Response Actions

The Company shall develop technical memoranda of general response actions for each medium of interest defining containment, treatment, excavation, pumping, or other actions, singly or in combination, to satisfy the risk management-based action objectives.

Identify Areas or Volumes of Media

The Company shall identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the risk management-based action objectives. The chemical and physical characterization of the Site must also be taken into account.

Identify, Screen, and Document Remedial Technologies

The Company shall identify and evaluate technologies applicable to each general response action to eliminate those that cannot be implemented at the Site. General response actions must be refined to specify remedial technology types. Technology process options for each of the technology types must be identified either concurrent with the identification of technology types, or following the screening of the considered technology types. Process options must be evaluated on the basis of effectiveness, implementability, and cost factors to select and retain one or, if necessary, more representative processes for each technology type. The technology types and process options must be summarized for inclusion in a technical memorandum to be approved by EPA. The reasons for eliminating alternatives must be specified.

Assemble and Document Alternatives

The Company shall assemble technical memoranda of selected representative technologies into alternatives for each affected medium or operable unit. Together, all of the alternatives must represent a range of treatment and containment combinations that will address either the Site or the operable unit as a whole. A summary of the assembled alternatives and their related action-specific ARARs must be prepared by the Company for inclusion in a technical memorandum. The reasons for eliminating alternatives during the preliminary screening process must be specified.

Refine Alternatives

The Company shall refine the remedial alternatives to identify contaminant volume addressed by the proposed process and sizing of critical unit operations as necessary. Sufficient information must be collected for an adequate comparison of alternatives. Initial screening-level benchmarks for each chemical in each medium must also be modified as necessary to incorporate any new risk assessment information presented in the Baseline Risk Assessment reports. Additionally, action-specific ARARs must be updated as the remedial alternatives are refined.

Conduct and Document Screening Evaluation of Each Alternative

The Company may perform a final screening process based on short- and long-term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives available for detailed analysis. If necessary, the screening of alternatives must be conducted to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis. As appropriate, the screening must preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives shall include options that use treatment technologies and permanent solutions to the maximum extent practicable. The Company shall prepare a technical memorandum summarizing the results and reasoning employed in screening, arraying alternatives that remain after screening, and identifying the action-specific ARARs for the alternatives that remain after screening.

b. Alternatives Development and Screening Deliverables

The Company shall prepare a technical memorandum summarizing the work performed in and the results of each task above, including an alternatives array summary. These must be modified by the Company if required by EPA's comments to assure identification of a complete and appropriate range of viable alternatives to be considered in the detailed analysis. This deliverable must document the methods, rationale, and results of the alternatives screening process.

TASK 7 - DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

The detailed analysis shall be conducted by the Company to provide EPA with the information needed to allow for the selection of a Site remedy. This analysis is the final task to be performed by the Company during the FS.

a. Detailed Analysis of Alternatives

The Company shall conduct a detailed analysis of alternatives which must consist of an analysis of each option against a set of nine evaluation criteria and a comparative analysis of all options using the same evaluation criteria as a basis for comparison.

Apply Nine Criteria and Document Analysis

The Company shall apply nine evaluation criteria to the assembled remedial alternatives to ensure that the selected remedial alternative will be protective of human health and the environment; will be in compliance with, ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element. The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) costs; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: Criteria 8 and 9 are considered after the RI/FS report has been released to the general public.) For each alternative, the Company should provide: (1) a description of the alternative that outlines the waste management strategy involved and identifies the key ARARs associated with each alternative; and (2) a discussion of the individual criterion assessment. If the Company does not have direct input on Criteria 8, state (or support agency) acceptance, and (9) community acceptance, these will be addressed by EPA.

Compare Alternatives Against Each Other and Document the Comparison of Alternatives

The Company shall perform a comparative analysis between the remedial alternatives. That is, each alternative must be compared against the others using the evaluation criteria as a basis of comparison. EPA will identify and select the preferred alternative. The Company shall prepare a technical memorandum summarizing the results of the comparative analysis.

b. Detailed Analysis Deliverables

In addition to the technical memorandum summarizing the results of the comparative analysis, the Company shall submit a draft FS report to EPA for review and approval. Once EPA's comments have been addressed by the Company to EPA's satisfaction, the final FS report may be bound with the final RI report.

Feasibility Study Report

The Company shall prepare a draft FS report for EPA review and comment. This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of remedial alternatives. The Company shall refer to the RI/FS Guidance for an outline of the report format and the required report content. The Company shall prepare a final FS report which satisfactorily addresses EPA's comments.

TASK 8 – PROJECT SCHEDULE

The Company will develop for EPA's review and approval a project schedule for the performance of the RI/FS. The project schedule must cover performance of all aspects of the work.

TASK 9 – EARLY ACTIONS

Based on the results of the Human Health or the Ecological Risk Assessments or screening assessments, EPA may require that the Company plan and conduct early response actions to protect public health and/or the environment.

Appendix A to the RI/FS Statement Of Work
Studies and Analyses For Completion Of The Aquatic, Human Health, And Plant & Wildlife Risk Assessments For the Upper Columbia River (UCR) Study Area

CHAPTER 1 INTRODUCTION

This Appendix identifies studies and analyses important for completion of the aquatic, human health, and plant & wildlife risk assessments for the Upper Columbia River (UCR) study area. This study area extends from the U.S. - Canada border to the Grand Coulee Dam in northeast Washington State. The site encompasses a free-running river and a reservoir, Lake Roosevelt (LR). It may include riparian and upland sites, depending on the extent to which slag, atmospheric emissions, liquid effluent contamination, and dust from UCR sediments have reached these areas in significant quantities.

These studies and analyses seek to assess the potential risks posed by metals and other contaminants. Metals are used here to refer to metals (e.g., copper, lead, mercury) and metalloids (e.g., arsenic, antimony, selenium). The known sources include Teck Cominco's Trail, B.C. facility, and pulp and paper mills as well as historic mining and smelting operations in the streams draining into Lake Roosevelt.

Study lists are presented for three risk assessments-human, aquatic life, and terrestrial plants & wildlife. This necessarily leads to some repetition as some of the data can be used to meet the needs of two or more of the assessments. When work plans and sampling and analysis plans are prepared, it will be feasible to consolidate and integrate the respective data needs of the risk assessments, and nature and extent determination to achieve efficiencies.

The components of the Remedial Investigation/Feasibility Study (RI/FS) for the site are identified in the Statement of Work and not in this Appendix. All are acknowledged as being critical to this project.

The state of the science of environmental toxicology and in particular metals environmental toxicology is in a state of continual advancement worldwide. Improved methods and principles accepted by the scientific community may be available in the near term and will be considered, as appropriate.

All of the studies that may be required to complete the RI/FS may not have been identified as this is an iterative process, and all of the studies identified ultimately may not be needed, as some are contingent upon the results of prerequisite studies and the screening-level risk assessments.

The studies outlined below are necessary based on our current understanding of the site. However, EPA acknowledges that this RI/FS is an iterative process and that new data may suggest modifications to this SOW. EPA may require the Company to conduct studies not listed in this Appendix. Furthermore, EPA may determine that not all the studies listed in this Appendix need to be performed by the Company.

CHAPTER 2 PROJECT MANAGEMENT

2.1 PROJECT DATABASE AND DATA MANAGEMENT SYSTEM

The Company shall provide EPA and its government partners preliminary data within six weeks of receipt of data results. All documents must be submitted in hard copy and electronically in an editable format approved by the EPA. Data must be submitted electronically in a format approved by EPA. The Company will also provide EPA and its government partners all data validation information. EPA will supply access to government partners and, as EPA determines appropriate, the public, to study and independently analyze the data. It may be appropriate to consider having the data managed by a third party so all stakeholders gain access at the same time. The data management system must include independent quality assurance audits. This should include data as well as reference documents and historical reports. Note: EPA has initiated a data base system with information to date.

CHAPTER 3 HUMAN HEALTH RISK ASSESSMENT

3.1 PROBLEM FORMULATION

The Company agrees to cooperatively provide data on the Trail facility operations, including but not limited to multiple lines of production and recycling of hazardous materials, to fully identify contaminants of potential concern and for models (including the Conceptual Site Model).

3.1.1 Sediment and Contaminant Fate and Transport

The Company will investigate sediment and contaminant fate and transport. This task will support all risk assessments, and may include fate and transport modeling of contaminants of potential concern. This task will result in the characterization of transport of both bedded and suspended sediments and their associated contaminant residues in the riverine and lacustrine reaches of the UCR. The scope shall include collection of the data needed to determine sediment transport parameters including sediment properties (for example use of a Sedflume), bathymetry and hydrology and

water level elevations. If modeling is employed the model must be verified, validated, and reviewed by EPA.

To determine where changes in bottom sediment layers or depths may occur (i.e., to help identify erosional or depositional areas), the Company will collect data from multiple seasons and flow regimes. The differing flow regimes will account for effects on bottom contours due to changes in water flow, (e.g., during and after storm events or major reservoir water level fluctuations.)

The aerial and vertical extent of slag or its weathered forms is not fully known. EPA may require the Company to conduct Sediment Profile Imaging for getting a visual map of the extent of slag and its interactions with benthic habitat, and for getting preliminary ideas on depth of slag and grain size characteristics. This could be used to identify areas for collecting more definitive subsurface data. EPA may also require the Company to conduct Acoustic Doppler current profiling needed for hydrodynamic modeling. EPA may also require the Company to study erosion on the river and reservoir to determine potential inputs of sediments into the system as well as other changes which erosion may cause.

Sediment transport also includes characterization of the bathymetry of the UCR. EPA may require Company to conduct multiple bathymetry studies under differing hydrologic regimes (e.g., before, during and after major flows). This involves understanding the physical sediment environment within the study area (depth and consolidation and bulk density of the sediments) so that deposition and erosion zones can be identified. The sediment transport and contaminant fate study will include the sampling locations targeted by previous UCR studies and help to guide future sampling efforts.

In addition to samples taken for sediment transport, the Company must collect a body of sediment data to determine nature and extent of contamination.

In addition to sediment analyses, the Company must conduct chemical analyses of slag. Analyses must include obtaining information on comparative chemical composition of newly exposed faces versus weathered slag, metals speciation in slag leachate, and rate of chemical release during slag weathering. This will help to understand current contaminant distribution of metals, and future releases of metals.

Contaminant fate and transport determinations must be conducted concomitant with the sediment transport study. The two are inextricably linked because the transport and deposition of contaminants through the UCR will be a function of the size, concentration and densities of particles, current velocities and turbulence, metal

speciation, properties of the organic compounds and organic carbon. These will vary within the UCR.

3.1.2 Sources of Contaminants and Sediments

There may be other potential sources of contaminants to the UCR beyond those contributed by the slag and wastewaters of Teck Cominco's facility. Additional sources exist. If these contaminants are suspected or identified as posing or contributing to risks to humans or the environment, then methods shall be developed for determining the source of those contaminants.

Gaps exist in available information as to whether upland contamination impacts ground water, or whether contaminated ground water discharges into surface water. EPA may require the Company to conduct ground-water sampling where upland contaminants potentially discharge to surface water. EPA may require the Company to collect data to determine the potential for contaminated ground water to be a source of impacts to surface water.

3.1.3 Initial (Tier 1) Delineation of Upland Aerial Footprint Reflecting Atmospheric Deposition of Trail Facility Emissions and Lake Roosevelt Sediment

Studies may be necessary to assist EPA in delineating the upland or terrestrial contaminant impact areas. EPA may require the Company to conduct studies that may involve modeling depositional patterns of emissions from the Trail facility and dust from high wind events impacting UCR sediments. A modeling study may be able to establish the probable aerial extent (footprint) of deposition from these sources. Designating the size and boundaries of the upland study area is important to scoping terrestrial sampling studies for both the human health and wildlife evaluations and has a direct bearing on the degree (and therefore cost) of sampling. If required by EPA, these studies must take into account studies conducted north of the U.S./Canadian border (e.g., Goodarzi et al. 2001; Goodarzi et al. 2002; National Research Council, 2005; Ross & Associates Environmental Consulting et al. 2003), and include dust sampling and modeling studies conducted in the UCR. Data needed will be driven by model requirements. Any model will require verification, validation and EPA review. In addition, EPA may require that the Company collect air samples necessary to determine aerial transport of eroded beach sediment.

3.1.4 Screening Level Risk Assessment and Data Gaps Analysis

Existing data has undergone data quality review and validation, by EPA. Existing data will be used to conduct the initial screening-level risk assessment (SLRA) of potential risks to all key human receptor groups. The results of this screening shall be used to

identify data gaps and key uncertainties for both the Remedial Investigation and Risk Assessments. Additional SLRAs shall be applied iteratively to new data to successively focus the analysis. These analyses are a prerequisite to conducting the baseline risk assessment.

The results from the Data Gaps Analysis shall be used to identify which data are necessary to advance the RI and FS. The data gaps analysis will then be used to generate subsequent work plans, including nature and extent of contamination as mentioned above, and to collect data to complete the baseline RA.

3.2 EXPOSURE ASSESSMENT

3.2.1 Characterization of Background Concentrations in UCR Environmental Media

A study may be needed to identify locations that are suitable to represent in-water and upland background contaminant concentrations for the UCR. If EPA requires this study, background areas should be as similar as possible to the UCR locations being sampled to ensure that contaminant concentrations in background areas are representative of the range of physical and habitat conditions being evaluated. These locations may be in Canada.

3.2.2 Tribal and Recreational Consumption and Resource Use Surveys

Recreational consumption and resource use surveys must be completed for the RI/FS, for both Tribal consumption and use, and consumption and use by the general public. A review of available consumption information will be conducted as part of the planning process for the Tribal and general public recreational consumption and resource use surveys. A Tribal survey will be conducted by the EPA and/or the Tribes as set forth in the SOW (NOTE: A third-party member may be involved with the design). The Tribal consumption and resource use study shall include the planning and conduct of consumption and use surveys for the tribes based on personal interviews and other survey methods. The Tribal and general public consumption surveys should identify consumption of any foodstuffs that may be harvested from the study area, including vegetation, wild game and fish/shellfish. The consumption and use surveys shall occur over one or more years and include data relevant to all seasons of harvest. The surveys shall be designed to elicit specific information on the types of resources (e.g., wild and cultivated plants, wild game, fish/shellfish) harvested within the Study Area and from areas representing background conditions in a manner sensitive to intellectual and cultural properties of the affected tribes. The surveys also should define the proportion harvested from each location, the frequency of consumption annually for each resource consumed, the average and maximum amounts consumed, general cleaning, preparation and cooking methods, and the ages and gender of those

in each family unit that consume the resources and other factors as appropriate. Tribal use must also consider exposure from sources other than consumption (e.g., sweat lodges, medicinal uses, basket weaving, etc).

Recreational surveys will establish a more site-specific estimate of the degree of recreational use of the UCR. Any recreational survey shall be carried out over at least a one-year period as determined by EPA in order to identify seasonal variation. Such a survey will be designed to elicit information on the types of activities conducted within the UCR: specifically which recreational areas typically are visited, the time spent weekly at each, and the activities typically conducted (e.g., picnicking, swimming, fishing, boating, etc.).

3.2.3 Sediment, Beaches, Surface Water, Fish, and Mussel Tissue Sampling

Sediment, beaches, surface water, fish, and mussel tissue sampling studies will be conducted. These studies will support both human and ecological risk (aquatic life and terrestrial plants and wildlife) assessments. They shall be designed to build on the sediment and tissue data collected in 2005 by EPA to fill data gaps and or other needs. The number and location of samples cannot be known until completion of the Tier I screening level risk assessment and identification of uncertainties and data gaps for these media.

If EPA determines that the results of the 2005 Sediment Sampling indicate that beaches could pose an unacceptable health risk, or do not provide sufficient information to make a determination, then additional beaches will need to be specifically included in the upland soil or aquatic sediment sampling.

Fish tissue samples will include skin-on fillets and whole body samples for fish. Gastrointestinal tract contents may be removed and analyzed separately from whole body fish. Gastrointestinal tract contents are important for consideration of prey species as whole fish are ingested by wildlife.

In addition to fish, mussels have been identified as a food source for humans and wildlife. Company shall sample mussels from exposed beaches where they occur. Co-located sediment samples and other pertinent information may be collected.

3.2.4 Biological Surveys of Terrestrial Vegetation and Wildlife

Following conduct of the tribal and recreational use surveys and identification of representative plant habitat areas in the Study Area where exposures may occur, it should be apparent which types of upland plants and animals are consumed and thus may require evaluation of potential risks to people. The occurrence of the vegetation

and animals used by tribal members and others then can be mapped using existing and new data. These data will support co-located soil and vegetation sampling in habitat areas where the plants and animals exist. In addition, EPA may require the Company to determine whether contaminants are preventing these plants and animals from occupying particular locations. These surveys shall be integrated with those conducted as part of the wildlife risk assessment. The latter also will survey and map forbs/grasses/shrubs and other browse of certain wildlife species.

3.2.5 Terrestrial Soil and Vegetation Residue Sampling and Analysis

Depending on how the upland portion of the Study Area is defined (see Section 3.1.1), EPA may require the Company to conduct co-located sampling of bulk soil and vegetation and other pertinent parameters needed to evaluate exposures of human health and wildlife (Section 5.2.9). These data shall also be used to refine estimates of depositional footprints from atmospheric emissions from the Trail facility and dust from Lake Roosevelt (Sections 3.1.3 and 3.2.6).

Soils also represent an exposure pathway. For example, soil can be directly touched or ingested by people recreating or harvesting plants in the upland portions of the study area. For evaluating human contact exposure, as determined appropriate by EPA, bulk soils shall be sieved by the laboratory and the smallest (sieved) fraction analyzed for metals (U.S. Environmental Protection Agency Technical Review Workgroup for Lead, 2000). Size fractions larger than fine sand generally do not adhere to skin, and therefore may pose lower risks from incidental ingestion or direct skin uptake although contact with wet sediment may increase adherence of larger particles (Kissel et al., 1996). For evaluating uptake of contaminants from soil into vegetation, bulk soil must also be analyzed. The bioavailability of contaminants in soil should be considered to the extent technically feasible. The bulk soil data may allow for evaluation of contaminant uptake from soil, which supports both human and wildlife risk evaluations. Properties needed to evaluate contaminant bioavailability and fate also should be determined prior to data collection. The number of soil samples to be collected depends on the number of locations evaluated and the sizes of the areas studied. Aerial extents will depend on the anticipated sizes of the depositional footprints established in Study 3.1.3. At a minimum, several soil samples per location shall be collected. Locations to be sampled should include natural areas identified through consumption use surveys, known recreational and camping areas in the UCR, and areas where cultivation practices potentially may be affected. Co-located sampling of soil and vegetation should represent the range of exposure conditions being evaluated.

Vegetation sampling must represent both plants growing naturally and under cultivation. The types of vegetation to be sampled must represent those consumed by

tribal members (e.g., culturally significant forbs/grasses/shrubs) and the general public (as well as wildlife as described in subsequent sections.)

3.2.6 Tier 2 Delineation of Upland Aerial Footprint Reflecting Atmospheric Deposition of Trail Facility Emissions and Lake Roosevelt Sediment

EPA may require the Company to conduct a second tier airborne contaminant investigation, depending on the results of the first tier investigation (Section 3.1.3) and subsequent soil sampling (Section 3.2.3). The objectives would be the same as that of the study described in Section 3.1.3: delineate locations and aerial extents of upland areas where contaminant concentrations are elevated significantly above background due to dust from Lake Roosevelt or atmospheric deposition from the Trail facility. Obtaining more accurate and refined delineations than possible from Tier I modeling would be a second goal. The Company shall consult with the U.S. Geological Survey to coordinate with their ongoing work.

EPA may require the Company to conduct multiple modeling runs to determine the footprint of past emissions. Any model used will be verified, validated, and reviewed by EPA.

3.2.7 Mercury Methylation, Bioaccumulation, and Fate Study

EPA may require the Company to conduct a study to determine whether the water column and/or sediments within the UCR are significant sources of the methyl mercury found in fish collected from the UCR. The Teck Cominco facility in Trail has a record of historic and recent mercury releases (Commission for Environmental Cooperation (CEC), 2005; Dorn-Steele, 2004; Environment Canada, 2004). Methyl mercury levels are currently elevated in tissues of some fish species from this area, and these residues may be a source of potential risks to human health, depending on the extent of fish consumption from this area and the ages of the fish consumed (Washington State Department of Ecology & Washington State Department of Health, 2003; Washington State Department of Health, 2003). Identification of the sources and processes governing the distribution of methyl mercury is the main purpose of this study. Multiple locations within the UCR must be sampled for bulk sediment, sediment porewater, overlying surface water (near the sediment surface and at the water's surface), and fish. Each sample shall be analyzed for total and methyl mercury. Fish sampled should include species within different size classes that are representative of the size classes consumed. Fish ages and lengths must be measured, and Company shall normalize for age/size if it is established that these influence the residue level. An age/size effect on residues has been established in the literature. It also is important to account for the home ranges of the fish species sampled. This would require sampling fish that have limited home ranges (e.g., sculpins) and those that have been tagged to

establish where they have lived. By evaluating home ranges the need to make the assumption that fish sampled in one area lived there permanently may be avoided. The foregoing information is expected to characterize relationships between tissue residues and sediment and porewater concentrations of mercury.

EPA may require the Company to study the transformation of mercury in the UCR environment through the measurement of appropriate seasonal parameters.

3.2.8 Bioaccessibility Study

One method, currently under review by EPA Office of Superfund Remediation Technology Innovation (OSRTI), for estimating bioavailability of lead to humans is a bioaccessibility study. EPA may require the Company to perform a bioavailability study. This study could be performed to evaluate the potential bioaccessible fraction (an in vitro measure of relative bioavailability to people through ingestion) of lead (at a minimum) from samples of site media, including soil, sediment (beach), fish and mussel tissue, and surface water. The results of the study shall be used, if applicable, to refine screening level risk estimates for each medium. If, following a screening assessment, a substantial proportion of data continue to suggest potential risk, EPA may require that the Company conduct a more definitive study (see Section 3.2.9) to determine relative bioavailability.

3.2.9 Oral Bioavailability Study

EPA will determine the need for this test based upon completion of the screening-level risk assessment and the results of the bioaccessibility testing for lead. The potential need for this test, which doses study media to a model mammal, has been identified in EPA's Metals Risk Assessment Framework (U.S. EPA 2004). Depending on the results of the bioaccessibility testing, it may be necessary to measure the relative bioavailability of lead, arsenic, and perhaps other metals in media identified in the screening-level risk assessments. EPA may require the Company to conduct this study to establish more accurate estimates of the relative bioavailability of metals in site media.

3.3 OTHER HUMAN HEALTH STUDIES

Additional studies not presently anticipated may be required by EPA or suggested by the Company following the results of screening level risk assessment and interim results of the baseline risk assessments. These studies may be needed to increase the reliability (i.e., reduce uncertainty, increase accuracy) of exposure and/or risk estimates.

CHAPTER 4 AQUATIC ECOLOGICAL RISK ASSESSMENT (AERA)

4.1 PROBLEM FORMULATION

The following studies in Problem Formulation for the AERA may be important for defining exposure and subsequently risk to aquatic life. Each study has specific goals that address data needs for the AERA.

4.1.1 Transport and Fate of Contaminants and Particulates as Suspended Solids and Bedded Sediments

The Company will conduct a study to further define the transport and fate of contaminants in the UCR. This includes the speciation and bioavailability of metals, and other contaminants that have been identified as being potentially toxic to aquatic life in the water column or sediments (see Section 4.3.1 to 4.3.3). Contaminants will be transported in the dissolved phase, sorbed to suspended and bedded sediments, transported bound to particulates, and through bed sediment movement. Interactions between the latter's physicochemical properties and those of the metals and other contaminants will aid in determining the fate of contaminants in water and sediments.

4.1.2 Sources of Contaminants and Sediments in the Riverine and Lacustrine Reaches

EPA may require the Company to investigate sources of contaminants and sediments to the UCR in conjunction with the sediment and contaminant fate and transport study (Section 4.1.1). Other contaminant sources besides the Trail facility may include upstream and tributary-based mining prior to construction of dams on the Columbia River and its tributaries. Sediment sources include bank slumping, redistribution of sediments from tributaries, and depositions of up-river sediments.

4.1.3 Tiered Screening Level Risk Assessments

Consistent with the Ecological Risk Assessment Guidance for Superfund, a screening level risk assessment will be conducted on existing data. The contaminants of concern will then be refined through a reevaluation of assumptions inherent in the screening level risk assessment. EPA may require that the Company conduct additional SLRAs iteratively to data collected as part of subsequent investigational tiers.

4.2 EXPOSURE CHARACTERIZATION

4.2.1 Sampling Design

The Company will provide a formal study design to guide all sampling. The final sampling design has not yet been determined. However, any design must consider analytical detection limits, physical, chemical, and biological properties, and other appropriate parameters.

4.2.2 Characterization of Background Concentrations of Metals and other Contaminants in Water, Animals and Sediments

EPA may require the Company to conduct a study to identify suitable aquatic reference sites for the UCR. The UCR represents a cline of habitats and environments, so multiple reference site conditions may be necessary. This could include use of a probabilistic-based design for sampling candidate reference sites, or a more focused study as determined by EPA in order to identify multiple reference sites.

4.2.3 Characterization of Surface Water Quality

The Company will conduct a study to characterize surface water quality. The objective of this study is to collect suitable data needed to determine potential source areas, and whether contaminants in surface waters, based on total, dissolved and bioavailable metal and other contaminants, pose an unacceptable risk to organisms. This study may also include the direct determination of surface water toxicity using chronic toxicity tests including of the plankton Ceriodaphnia dubia. Water shall be sampled in the euphotic zone, where plankton predominate, and in the water overlying the sediments (surface water).

4.2.4 Characterization of Sediment and Sediment Porewater

The Company will collect the data needed to characterize the composition of the bulk and bioavailable sediments and associated porewater in terms of contaminant, particle size and physicochemical properties that affect metal and other contaminants' bioavailability and toxicity. This study would supplement the EPA study conducted in spring 2005. If required by EPA, additional sampling shall be conducted to measure variables associated with the factors affecting bioavailability and toxicity, as well as fill data gaps identified by EPA's 2005 sampling. This study should also be tied to the direct determination of sediment toxicity using toxicity tests of benthic macroinvertebrates (see Section 4.3.3).

This study could include the scenario to sample sediments from at least five segments or reaches: (I) riverine, (2) upper LR basin, (2) middle LR basin, (3) lower LR basin, and (5) Spokane Arm to Long Lake Dam. Although EPA collected bulk sediment samples in spring 2005 from four of the UCR segments, further sediment samples will likely be required to fulfill the needs of the AERA and site delineation.

4.2.5 Biological Survey of Aquatic Invertebrate Community

The Company will perform a biological survey. This study will identify the relative abundance and occurrence of aquatic macro invertebrate species in the various reaches of the UCR. The survey will provide direct support for identifying species that may be appropriate for further study. Data collected will support the identification of species and calculation of richness and diversity indices. EPA Rapid Bioassessment protocols are available to support these types of surveys or EPA's probabilistic-based sampling design could be used (see Fore 2003).

4.2.6 Aquatic Macroinvertebrate, Amphibian and Plankton Contaminant Sampling and Analysis

The Company will conduct a study to determine whether metal and other contaminant residues in macroinvertebrates and plankton pose risks to fish. This study must to be tied to a study characterizing diets of fish (Section 4.3.5) and a laboratory dietary toxicity study (Section 4.3.4).

4.2.7 Bioavailability of Metals and other Contaminants in Surface Water and Sediment Porewater

Bioavailability will be considered at the site. EPA may require the Company to conduct a study of the bioavailability of metals and other contaminants in surface water and sediment porewater. The parties will work together to more fully develop a specific study approach. The bioavailability of metals in surface water and sediment porewater may be defined using either the biotic ligand model, to the extent such models are available, or by water effect ratios (U.S. EPA, 2001; V.S. EPA, 1994). The biotic ligand model is a method for determining bioavailability of certain metals in water (and porewater) based on concentrations and binding constants of water quality constituents with each other and biotic ligands of aquatic organisms. Water effect ratios are based on laboratory tests whereby the toxicity of water and sediments collected in the field is compared to that of standard laboratory water and laboratory sediments using standard toxicity test species.

4.3 EFFECTS CHARACTERIZATION

4.3.1 Surface Water Toxicity to Sensitive Indicator Organisms

EPA may require the Company to perform acute and chronic toxicity tests for surface waters of UCR.

Toxicity tests may be performed to verify predictions concerning the presence or absence of risks based on analysis of chemical data (e.g., metals concentrations in water).

4.3.2 Identification of Cause-Effect Relationships Using Toxicity Identification Evaluations

EPA may require the Company to conduct studies to establish that metals and other contaminants rather than other factors are specifically contributing significantly to toxicity or adverse effects observed in laboratory tests or field studies.

4.3.3 Sediment Toxicity to Sensitive Indicator Organisms

EPA may require the Company to conduct additional sediment toxicity tests with key invertebrate species in the UCR. These may include Hyalella azteca or Chironomus tentans. Tests with other macro invertebrate species as well as amphibians may be required by EPA (e.g., the oligochaete, Lumbriculus variegatus.)

4.3.4 Laboratory Dietary Toxicity Tests with Fish

EPA may require the Company to perform laboratory dietary toxicity studies on species of interest. Such tests have shown at other Superfund river sites that diet may be the driving source of exposures when water concentrations of metals are below water quality criteria.

4.3.5 Fish Diets

Risks to humans from fish consumption or fish toxicity may be related to contaminants in the sediments or water column, or from diet (or all of these factors). EPA may require that the Company determine the content and impacts of fish diet if this is determined to be a significant contaminant pathway. Diets of fish shall be determined from identification of species in water and sediment, and through analysis of stomach contents.

Stomach contents of fish may need to be collected to assist in the dietary preference determination. Dietary identification may be conducted over multiple seasons due to high-expected variance in prey types.

Tissue analyses of invertebrates will be linked to known or inferred diets of fish and other predators.

4.3.6 Fish Habitat Use Survey

EPA may require the Company to conduct a fish habitat survey. The purpose is to identify locations where sturgeon, and other fish species for which existing data are highly uncertain, and which are selected as or are potential assessment endpoints, may reside in the UCR. The study shall include temporal issues related to their potential exposures.

4.3.7 Contaminant Avoidance by Fish

Fish may avoid areas of high contamination, or areas of slag.

EPA may require that the Company conduct avoidance tests for fish to determine whether fish may avoid areas of the UCR that could be foraging or reproductive areas. Low use could be detrimental to populations due to feeding or reproductive stresses.

4.3.8 Species of Interest Study

It is noted that there are species resident to the UCR that are of special concern to Teck Cominco, the federal government, the state, Tribes and the Public, e.g., sturgeon. Sturgeon, in particular, due to their declining numbers and unique longevity are of specific concern in the UCR. Few toxicity data are available for these organisms and questions exist about their sensitivity to contaminants.

EPA may require investigations to address these concerns for sturgeon and other species of interest. Issues that will be discussed at the workplan stage will include: juvenile toxicity studies, tissue concentrations in field-collected sturgeon, gross pathology, histopathology, maternal transfer, toxicity reference values (TRVs), and other studies for contaminant effects recommended by the transboundary sturgeon recovery team.

4.3.9 Food Web Modeling

EPA may require the Company to conduct food web modeling and obtain appropriate empirical information and data to ascertain exposures to higher trophic organisms.

The modeling would be used in identifying potential effects of remediation on fish tissue and other higher trophic level organisms' chemical levels.

A specific food web model may be considered, including integration with the results of the fate and transport models for use in back-calculating effects of sediment remediation on fish and higher trophic level organisms' tissue levels.

Food web modeling may serve to support a determination of contaminant concentrations of interest by a back calculation approach and for organic contaminants that bioaccumulate.

If EPA determines that the models are not appropriate, the collection of biota in 4.2.6 will be used to evaluate the bioaccumulation aspects of bioavailability for those contaminants that will be part of a food web model or where we have TRVs for the benthos.

4.4 RISK CHARACTERIZATION

4.4.1 Field Confirmation of Laboratory/Office/Model Estimates of Risk

The Ecological Risk Assessment may have identified risks based on analyses of laboratory and field data. To reduce uncertainty, EPA may require the Company to verify that some of the predicted effects are occurring in key species within the UCR. Key species are defined as those that are key to the ecological function and production of the aquatic ecosystem and fisheries of the UCR.

Appropriate field studies are lines of evidence that can be considered and do not preclude other lines of evidence.

4.4.2 Definition of Risks to Receptor Populations

EPA may require the Company to perform quantitative evaluation of risks to understand how or whether the calculated risks are affecting populations of the key UCR species identified in the problem formulation. This information may be needed as part of the remedy selection process especially given the size of the UCR.

Appropriate field studies are lines of evidence that can be considered and do not preclude other lines of evidence.

CHAPTER 5 PLANT AND WILDLIFE RISK ASSESSMENT

5.1 PROBLEM FORMULATION

5.1.1 Designation of Upland Study Area

The scope of this study will be the same as that described in Section 3.1.3.

5.1.2 Sediment Transport and Metal and Other Contaminants Fate

This study would be the same as that described in Section 3.1.1.

5.1.3 Sources of Metals and Other Contaminants

This study would be the same as that described in Section 3.1.2.

5.1.4 Screening-level Risk Assessment and Data Gaps Analysis

Consistent with the Ecological Risk Assessment Guidance for Superfund, a screening level risk assessment will be conducted on existing data. The contaminants of concern will then be refined through a reevaluation of assumptions inherent in the screening level risk assessment. EPA may require that the Company conduct additional SLRAs iteratively to data collected as part of subsequent investigational tiers.

5.2 PLANT AND WILDLIFE EXPOSURE ASSESSMENT

5.2.1 Characterization of Background Metal and Other Contaminant Concentrations in UCR Environmental Media

A study may be needed to identify locations that are suitable to represent in-water and upland background contaminant concentrations for the UCR. If EPA requires this study, background areas should be as similar as possible to the UCR locations being sampled to ensure that contaminant concentrations in background areas are representative of the range of physical and habitat conditions being evaluated. These locations may be in Canada.

5.2.2 Sediment Sampling

EPA may require the Company to conduct additional sediment sampling. Data can be used from the EPA 2005 sediment sampling programs, earlier sampling programs, and new data collected for the aquatic and human health risk assessments. (See 3.2.3). However, it is possible that additional data may be needed in particular locations used

significantly by wildlife for foraging. Bulk or sieved sediment concentrations will be used to define exposure for bottom-feeding ducks and shorebirds, and need to be representative of the different reaches within the study area. Besides contaminant concentrations, other sediment properties should be described, including particle size distribution, total organic carbon, and pH. Efficiencies in collecting the sediment data can be realized by coordination with the human and aquatic life risk assessments.

Multiple background locations (and conditions) likely will be required to represent the lacustrine, riverine, riparian and palustrine areas of the UCR, as well as represent the different habitats (agricultural, etc.) contained in the upland locations where a significant contaminant footprint attributable to Trail facility operations has been established.

Exposed shoreline sediments that other wildlife species may come into contact with should also be considered, such as aquatic mammals and terrestrial mammals that may feed on the exposed sediment (e.g., foragers of mussels).

5.2.3 Surface Water Sampling

A synoptic surface water data set suitable for assessing wildlife risks is not available for the UCR. Because wildlife will use different portions of the UCR for resting, staging, foraging, and reproduction, the Company shall collect metal and other contaminant concentrations throughout the study area. Surface water measurements should also include both total metals, dissolved metals (in areas where important amphibian populations occur), and parameters such as hardness, pH and suspended solids.

5.2.4 Aquatic and Terrestrial Animal Community Survey

The Company will conduct a study to identify the relative abundance and occurrence of wildlife foods in the various reaches of the UCR and uplands. The focus of this survey will be on animal foods, species like worms, macroinvertebrates, and small mammals. Plants will be surveyed in another study (Section 5.2.8). The scope of upland sampling will be determined from footprints of Trail emissions and/or UCR dust (see Sections 3.1.3, 3.2.5, and 3.2.6). The key wildlife species and their food habits will be identified before undertaking this study. The survey will identify species that should be sampled because of their distribution, occurrence and abundance. A probabilistic-based sampling approach (Fore 2003) as well as other sampling approaches will be considered.

5.2.5 Aquatic and Terrestrial Animal Residue Sampling

Metal and other contaminant residues in animal prey of key wildlife receptor species will be determined with a field sampling program. Residues in plants consumed by certain wildlife receptors also will be studied (see Section 5.2.9). Prey species sampled should be based on the food habits of key receptors identified during the Problem Formulation. Aquatic and terrestrial animal residue sampling should be synoptic of the different aquatic and upland habitats within the Study Area and the typical dietary habits of wildlife receptors to ensure maximum relevance to the risk assessments. The prey may include invertebrates, fish and small mammals. Samples for residue measurement may be co-located with sediments, water or soil, as appropriate. These data may also allow uptake efficiencies to be evaluated in certain cases.

5.2.6 Amphibian and Reptile Survey

Data on the relative abundance of reptiles and amphibians in the Study Area may be needed as a line of evidence in the wildlife risk assessment. EPA may require the Company to collect this data. These data will also guide residue sampling of these organisms (if any) for use in the assessment. Sampling should be coordinated with other surveys (e.g., Section 5.2.5) and consider using a probabilistic or an alternative sample design such as the stratified population proportionate design as approved by EPA.

5.2.7 Fish Tissue Sampling

EPA may require the Company to collect additional fish tissue data. Existing data from EPA's 2005 sampling event will be used as appropriate, but additional data may be needed to support the wildlife risk assessment. Fish (whole body samples) are expected to be the primary prey of such wildlife predators as otters, ospreys, eagles and herons. The fish for these receptors should be processed and chemically analyzed without depuration of stomach contents. Fish size required to support the wildlife risk assessments will vary. Osprey and Bald Eagle may take larger (i.e., >12 inches) fish, while other fish-eating wildlife (herons, otters) will consume smaller specimens. Fish sampled should be representative of the species, sizes and trophic levels characteristic of the UCR. Coordinating sampling with the mercury fate study may be desirable (Section 3.2.7). Fish should be analyzed as individual samples (no composites). Several specimens representing size classes of common prey species should be collected from multiple reaches within the UCR.

5.2.8 Upland Plant Survey

Data on the types of vegetation and the relative degree of vegetative cover in the Study Area for key species may be gathered either on the ground, from existing resource data bases, or through a combination of both. This study will be conducted if the terrestrial footprint study (Sections 3.1.3, 3.2.6 and 5.1.1) identifies areas of upland contamination. These data should be mapped using geographic information systems (GIS) so that areas of occurrence of indicator plant species are known and can be targeted for sampling plants in areas where exposures have been identified (see Section 3.1.1 and 5.1.1). Consolidation and integration of this survey and the mapping with the human health assessment should be considered.

5.2.9 Soil and Vegetation Sampling

Depending on how the upland portion of the study area is defined (see Section 5.1.1), EPA may require the Company to conduct bulk soil sampling to evaluate exposures of terrestrial wildlife. Soil can be directly ingested by terrestrial wildlife grazing on vegetation within the upland study area and is one of the key pathways for metal and other contaminant uptake by plants. Soils collected to evaluate exposures of wildlife and terrestrial vegetation should be whole (bulk) and include the following measurements in addition to metals and other contaminants: particle sizes, cation exchange capacity, total organic carbon and pH. Bulk soil samples should be collocated with samples of vegetation to evaluate metal and other contaminant bioaccumulation potential.

The number of soil samples collected will depend on the power and sensitivity of the study, heterogeneity of the results, the number and aerial extent of footprints identified in the depositional studies (Sections 3.1.3, 3.2.6), and the upland plant survey (Section 5.2.8). At a minimum several soil samples per "location" should be collected. Locations to be sampled for soil and vegetation should include areas where natural (wild) vegetation (forbs, grasses, shrubs and other vegetation/forage) is present.

Plant samples should be associated with the food habits of the wildlife receptors. Roots may be needed to support dietary habits for some wildlife that preferentially feed on these plant parts (e.g., muskrat, other small mammals), while shoots (i.e., above ground growth) will be necessary to support forage for other receptors (small mammals).

5.2.10 Bioaccessibility Study

Residues of some contaminants in the tissues of some species of fish may potentially pose risks to wildlife receptors, depending on consumption rates, metal and other

contaminant concentrations and assumptions about the contaminants' bioavailability. One method, currently in development, for making a preliminary estimate of lead bioavailability in humans is the in vitro bioaccessibility study. EPA may require the Company to conduct a study to evaluate the potential bioaccessible fraction (an in vitro measure of what may be bioavailable to people or wildlife through ingestion) of (at a minimum) lead and arsenic (and perhaps other metals). The scope of sample collection for this study would depend on the chemicals, media, receptors, and locations identified in the risk assessments.

5.3 PLANT AND WILDLIFE EFFECTS CHARACTERIZATION

5.3.1 Early Life Stage Amphibian Toxicity Tests

The need for early life stage amphibian toxicity tests will be based on the findings of the screening level risk assessment of sediment and water quality data, and the results from the amphibian/reptile survey. If screening evaluations suggest contaminant concentrations may pose a risk, then EPA may require that the Company conduct this study. The frog embryo teratogenesis assay-Xenopus (FETAX) test is a candidate test.

5.3.2 Plant Germination Studies

The need for plant germination tests (e.g., lettuce seed) will be based upon the screening level risk assessments, the plant/vegetation survey, and the footprints identified in studies described in Sections 3.1.3, 3.2.5 and 3.2.6. If screening evaluations suggest potential risks, then EPA may require the Company to conduct germination studies in soil and sediment collected from selected locations. These tests could also be used to assess bioaccumulation, if necessary.

5.3.3 Earthworm Toxicity Studies

The need for earthworm toxicity tests will be based upon findings of the screening level risk assessment of soil data, the results of the footprint study (Section 5.1.1) and the results from the survey of terrestrial invertebrates (Section 5.2.4). If screening evaluations suggest contaminant concentrations may pose a risk, then EPA will require the Company to conduct survival studies in soil and sediment collected from selected locations.

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Exhibit B

Technical Review of Upper Columbia River RI/FS

EPA is prepared to provide up to four levels of technical review of RI/FS process, outlined as follows:

(1) Upper Columbia River Technical Team:

The site technical team will consist of representative of EPA Region 10 as well as technical experts from EPA headquarters and labs. Specifically, the technical team consists of:

Sally Thomas
Kevin Rochlin
Monica Tonel
Bruce Duncan
David Charters
David Cooper
Steve Ells
Marc Stifelman
Burt Shephard

(2) Contaminated Sediments Technical Advisory Group (CSTAG)

EPA will utilize CSTAG periodically throughout the RI/FS process to assure sound decision-making. OSWER Directive 9285.6-08, *Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites* (Feb. 12, 2002), established the CSTAG as an EPA technical advisory group to "monitor the progress of and provide advice regarding a small number of large, complex, or controversial contaminated sediment Superfund sites". The main purpose of the CSTAG is to help RPMs appropriately investigate and manage their sites in accordance with the 11 risk management principles established in the above Directive. Because all the members are also engineers or scientists, technical advice on specific studies is also often provided. The CSTAG is visiting most of the largest sediment sites where a remedy has not yet been selected in order to provide the site manager advice on how to select a remedy that achieves a cost-effective reduction in long-term risks to human health and the environment.

CSTAG membership includes one representative per Region, two from ORD, and two from OSRTI. The initial meeting for each site will be near the site and will include an overview of the site by the RPM, a site visit, a half-day session where key stakeholders may make presentations, and a half-day CSTAG-only session where the CSTAG begins drafting its recommendations. The CSTAG plans to monitor the progress at each site until all remedial action objectives and cleanup levels have been met.

The CSTAG has submitted recommendations on ten sites and other sites will be added as it becomes apparent that they are likely to include a sediment remedy. The recommendations and the Region's response are posted on EPA's contaminated sediments web page at www.epa.gov/superfund/resources/sediment/cstag.htm. Most site managers have found the

recommendations useful and have used them to refine their conceptual site model, gather more data that is most appropriate, not collect data that are unlikely to be used in decision-making, improve their communications with the public, and/or evaluate existing data in a different light.

(3) Technical Review Process

EPA is willing to allow Teck Cominco, at specified points in the RI/FS process, to seek further third-party review of a decision of the Upper Columbia River Technical team to an EPA remediation expert, Dr. Elizabeth Southerland, Division Director, Office of Superfund Remediation and Technology Innovation. Teck Cominco could seek review of decisions of the Technical Team to Dr. Southerland on the following documents:

a) technical memorandum on problem formulation for ecological risk assessment

b) draft eco risk assessment work plan (this document will include methodology for performing and problem formulation for eco risks);

c) draft human health risk assessment work plan (this document will include methodology for performing the risk assessment including hazard identification);

d) draft risk assessment for eco risks;

e) draft risk assessment for human health risks;

f) any action memorandum for early response actions.

g) draft FS

Under this process, Teck Cominco could raise its concerns with Dr. Southerland within 10 days of EPA issuing its disapproval or modifications of Teck's draft final document. Dr. Southerland will consult with Region 10 and HQ staff, and the experts representing the United States Department of the Interior, the Canadian government, State and Tribal governments, and Teck Cominco, as needed, in reviewing Teck Cominco's objections and alternatives. Dr. Southerland may also, at her discretion, consult other such experts as she deems appropriate. Dr. Southerland will provide written technical recommendations to the Region 10 Administrator and the Assistant Administrator of the Office of Solid Waste and Emergency Response (OSWER) who will then make a joint written final decision.

(4) Enhanced Consultative Role for Canadian Government

Arrangements for consultation between the governments of the United States and Canada will be completed by the exchange of notes between the two governments.